# DOCUMENT RESUME

ED 114 076 IR 002 701

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| TITLE | Telecommunications Facilities and Demonstration Act of 1975; Hearings Before the Committee on Communications of the Committee on Interstate and Foreign Commerce, House of Representatives, Ninety-Fourth Congress, First Session on H.R. 4564. |
| INSTITUTION | Congress of the U. S., Washington, D. C. House Committee on Interstate and Foreign Commerce. |
| PUB DATE | Jun 75 |
| NOTE | 149p. |
| EDRS PRICE | MF-$0.76 HC-$6.97 Plus Postage |
| DESCRIPTORS | Educational Radio; *Educational Television; *Federal Legislation; Financial Support; *Health Education; Health Services; Social Services; *Telecommunication |

ABSTRACT

On June 3, and June 4, 1975, hearings were held before the House Subcommittee on Communications regarding the Telecommunications Facilities and Demonstration Act of 1975, H.R.4564. The bill has been submitted by the administration to provide the authority for the support of demonstration projects in telecommunications concerning the distribution of health, education, and social service information. This report includes the text of the proposed bill; the report of the Department of Health, Education, and Welfare Office of Telecommunications; the transcripts of 19 individual statements; and copies of the supporting information that was entered into the record. (EMH)

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# TELECOMMUNICATIONS FACILITIES AND DEMONSTRATION ACT OF 1975

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## HEARINGS

BEFORE THE

## SUBCOMMITTEE ON COMMUNICATIONS

OF THE

## COMMITTEE ON
## INTERSTATE AND FOREIGN COMMERCE
## HOUSE OF REPRESENTATIVES

NINETY-FOURTH CONGRESS

FIRST SESSION

ON

## H.R. 4564

A BILL TO EXTEND THE EDUCATIONAL BROADCASTING FACILITIES PROGRAM AND TO PROVIDE AUTHORITY FOR THE SUPPORT OF DEMONSTRATIONS IN TELECOMMUNICATIONS TECHNOLOGIES, AND FOR OTHER PURPOSES

JUNE 3 AND 4, 1975

**Serial No. 94–32**

Printed for the use of the Committee on Interstate and Foreign Commerce

IR 002 701

U.S. GOVERNMENT PRINTING OFFICE
87 627
WASHINGTON : 1975

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Corporation for Public Broadcasting, Henry Loomis, president.
Federation of Rocky Mountain States, Gordon A. Law, Ph.D., project director, satellite technology demonstration.

## ORGANIZATIONS REPRESENTED AT THE HEARINGS—Continued

Health, Education, and Welfare Department:
  Cameron, John, Branch Chief, Broadcasting Facilities, Bureau of School Systems, Office of Education.
  Hastings, Richard A., Acting Deputy Assistant Secretary for Legislation (Education).
  Horley, Albert, Director of Telecommunications Policy.
  Morrill, William A., Assistant Secretary for Planning and Evaluation.
National Association of Educational Broadcasters, George E. Bair, member, board of directors.
Public Broadcasting Service, Hartford N. Gunn, Jr., president.

# TELECOMMUNICATIONS FACILITIES AND DEMONSTRATION ACT OF 1975

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**TUESDAY, JUNE 3, 1975**

House of Representatives,
Subcommittee on Communications,
Committee on Interstate and Foreign Commerce,
*Washington, D.C.*

The subcommittee met at 2 p.m., pursuant to notice, in room 2322, Rayburn House Office Building, Hon. Torbert H. Macdonald, chairman, presiding.

Mr. Macdonald. The hearing will come to order.

There will be other members coming in at any moment.

Today, the Subcommittee on Communications begins hearings on H.R. 4564, the Telecommunications Facilities and Demonstration Act of 1975.

This legislation has been submitted by the administration to extend the educational broadcast facilities program and to provide new authority for the support of demonstration projects in telecommunications for the distribution of health, education, and social service information. The legislation provides $7 million for each of the next 5 years, or a total of $35 million to carry out its purposes.

The success in the 12 years since the educational broadcast facilities program was enacted has been considerable.

In 1962, there were 76 noncommercial television stations reaching slightly more than half the population. Today, there are 259 noncommercial television stations with the potential for reaching 80 percent of the American people.

Noncommercial radio stations were made eligible for the facilities program for the first time in 1967, and today 62 percent of the population is served by public radio.

This growth has been remarkable. However, in my judgment, the more difficult and expensive challenge lies ahead, and that is the challenge of obtaining as close to 100-percent coverage as is technologically and financially possible. Large sums of money will be required to upgrade existing facilities, to improve reception, and to establish new stations where justified.

Since 1962, over $106 million of Federal funds have been expended on facilities, and, for every 1 Federal dollar, and estimated 10 non-Federal dollars have been generated to improve and expand educational broadcast facilities.

It is apparent that this Federal commitment has provided the impetus for making public broadcasting available to millions more Americans each year. The commitment must, and will, be continued, although the level of funding is of course open to question, and, indeed, is a primary subject for these hearings.

The educational broadcast facilities program must remain in place until the job has been completed, and the maximum number of Americans are served by public broadcasting.

I hope our first witness today can give the subcommittee some assurance as to how the Department sees the future of the program.

In addition, I hope the subcommittee will be provided with a more detailed explanation of the portion of the legislation dealing with demonstration projects.

I have been made more than generally aware of the ATS–6 satellite and the programs serving the Rocky Mountain and Appalachian States and Alaska, but I believe we should have more specifics as to the potential of these programs and to HEW's plans to develop other technologies as well as satellites.

[The text of H.R. 4564, together with departmental reports thereon, follows:]

[H.R. 4564, 94th Cong., 1st sess., introduced by Mr. Staggers (for himself and Mr. Devine) on March 10, 1975.]

A BILL To extend the Educational Broadcasting Facilities Program and to provide authority for the support of demonstrations in telecommunications technologies for the distribution of health, education, and social service information, and for other purposes

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That this Act may be cited as the "Telecommunications Facilities and Demonstration Act of 1975".

PURPOSE

SEC. 2. (a) Part IV of title III of the Communications Act of 1934 is amended by striking out the heading of such part and inserting in lieu thereof "ASSISTANCE FOR NONCOMMERCIAL EDUCATIONAL BROADCASTING FACILITIES; TELECOMMUNICATIONS DEMONSTRATIONS, CORPORATION FOR PUBLIC BROADCASTING".

(b) Subpart A of such part is amended by striking out the heading of such subpart and inserting in lieu thereof "ASSISTANCE FOR TELECOMMUNICATIONS FACILITIES AND DEMONSTRATIONS".

(c) Section 390 of such Act is amended to read as follows:

"DECLARATION OF PURPOSE

"SEC. 390. The purposes of this subpart are to assist (through matching grants) in the construction of noncommercial educational television or radio broadcasting facilities and to demonstrate (through grants or contracts) the use of telecommunications technologies for the distribution and dissemination of health, education, and other social service information.".

APPROPRIATIONS

SEC. 3. Section 391 of such Act is amended to read as follows:

"AUTHORIZATIONS OF APPROPRIATIONS

"SEC. 391. (a) There are authorized to be appropriated for carrying out the purposes of this subpart $7,000,000 for the fiscal year ending June 30, 1976, and for each of the four succeeding fiscal years.

"(b) Sums appropriated pursuant to this section shall remain available for payment of grants or contracts for projects for which applications, approved under sections 392 and 392A, have been submitted prior to October 1, 1981, for construction of noncommercial educational television or radio broadcasting facilities or for telecommunications demonstrations.".

### CRITERIA FOR BROADCAST FACILITIES CONSTRUCTION

SEC. 4. (a) Section 392(a)(1) of such Act is amended by striking out clause (C) and inserting in lieu thereof "(C) a public or private nonprofit college or university,".

(b) Section 392(d) of such Act is amended to read as follows:

"(d) The Secretary shall base his determinations of whether to approve applications for grants under this section and the amount of such grants on criteria set forth in regulations and designed to achieve (1) a strengthening of the capability of existing noncommercial educational broadcast stations to provide local services; (2) the adaptation of existing noncommercial educational broadcast facilities to broaden educational uses; and (3) extension of noncommercial educational broadcast services, with due consideration to equitable geographic coverage throughout the United States.".

### TELECOMMUNICATIONS DEMONSTRATIONS

SEC. 5. The Communications Act of 1934 is amended by adding after section 392 the following new section:

### "TELECOMMUNICATIONS DEMONSTRATIONS

SEC. 392A. (a) It is the purpose of this section to promote the development of nonbroadcast telecommunications facilities and services for the transmission, distribution and delivery of health, education, and social service information. The Secretary is authorized, upon receipt of an application in such form and containing such information as he may by regulation require, to make grants to, and enter into contracts with public and private non-profit agencies, organizations, and institutions for the purpose of carrying out telecommunications demonstrations.

"(b) The Secretary may approve an application submitted under subsection (a) if he determines:

"(1) that the project for which application is made will demonstrate innovative methods or techniques of utilizing nonbroadcast telecommunications equipment or facilities to satisfy the purpose of this section;

"(2) that demonstrations and related activities assisted under this section will remain under the administration and control of the applicant;

"(3) that the applicant has the managerial and technical capability to carry out the project for which the application is made; and

"(4) that the facilities and equipment acquired or developed pursuant to the application will be used only for the transmission, distribution, and delivery of health, education, or social service information.

"(c) Upon approving any application under this section with respect to any project, the Secretary shall make a grant to or enter into a contract with the applicant in an amount determined by the Secretary not to exceed the reasonable and necessary cost of such project. The Secretary shall pay such amount from the sum available therefor, in advance or by way of reimbursement, and in such installments consistent with established practice, as he may determine.

"(d) Funds made available pursuant to this section shall not be available for the construction, remodeling, or repair of structures to house the facilities or equipment acquired or developed with such funds, except that such funds may be used for minor remodeling which is necessary for and incident to the installation of such facilities or equipment.

"(e) For purposes of this section, the term 'nonbroadcast telecommunications facilities' includes, but is not limited to, cable television systems, communications satellite systems and related terminal equipment, and other methods of transmitting, emitting, or receiving images and sounds or intelligence by means of wire, radio, optical, electromagnetic or other means.

"(f) The funding of any demonstration pursuant to this section shall continue for not more than three years from the date of the original grant or contract.

"(g) The Secretary shall require that the recipient of a grant or contract under this section submit a summary and evaluation of the results of the demonstration at least annually for each year in which funds are received pursuant to this section.".

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE,
*May 22, 1975.*

Hon. HARLEY O. STAGGERS,
*Chairman, Committee on Interstate and Foreign Commerce,*
*House of Representatives, Washington, D.C.*

DEAR MR. CHAIRMAN: This is in response to your request of April 25, 1975, for a report on H.R. 4564, a bill "To extend the Educational Broadcasting Facilities Program and to provide authority for the support of demonstrations in telecommunications technologies for the distribution of health, education, and social service information, and for other purposes."

This bill embodies a legislative proposal submitted by this Department to Congress on March 3, 1975. A detailed explanation of and justification for this proposal is contained in the letter forwarding our draft bill to the Speaker of the House of Representatives. A copy of that letter is enclosed for your convenience.

We urge that your Committee give favorable consideration to this bill and that it be promptly enacted by Congress.

We are advised by the Office of Management and Budget that there is no objection to the presentation of this report and enactment of H.R. 4564 would be in accord with the program of the President.

Sincerely,

CASPAR W. WEINBERGER,
*Secretary.*

Enclosure.

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DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE,
*March 3, 1975.*

Hon. CARL ALBERT,
*Speaker of the House of Representatives,*
*Washington, D.C.*

DEAR MR. SPEAKER: Enclosed for the consideration of the Congress is a draft bill "To extend the Educational Broadcasting Facilities Program and to provide authority for the support of demonstrations in telecommunications technologies for the distribution of health, education, and social service information, and for other purposes." This bill is similar to H.R. 17406 introduced for the Administration during the second session of the ninety-third Congress.

This bill has two basic purposes. First, the Department's direct support for over-the-air educational radio and television broadcasting facilities would be extended for a five-year period. Television broadcast coverage of these stations now extends to almost 78 percent of the population, while radio coverage is approximately 65 percent; extension of the facilities program for this additional period would permit the Department of Health, Education, and Welfare essentially to satisfy the original goals of the program while phasing down its direct support for construction of broadcasting facilities. Moreover, because the number of public television stations in the country represents a nearly complete and mature system, and because increased broadcast coverage is achievable only at unacceptably high per-viewer costs as the 100 percent coverage level is approached, the funding criteria for the broadcasting facilities program would be amended to emphasize (1) the strengthening of the capability of existing facilities, (2) adapting existing facilities to additional educational uses, and (3) extending educational broadcasting services, with due consideration to equitable coverage of all areas of the country.

Secondly, the legislation would provide authority for a telecommunications program designed to demonstrate ways to meet the common needs of the health and education community.

This legislation would provide a single broad authority in the Office of the Secretary to create the multi-user telecommunications services and facilities which will make it possible for health, education, and social service providers jointly to develop more efficient and economical means of meeting the nation's needs.

In order to accomplish this objective, the legislation would authorize the Secretary to carry out a program for the support—through grants or contracts—of demonstrations in the use and application of nonbroadcast telecommunications facilities and equipment (such as cables and satellites). Moreover, the legislation would provide the authority to assist in the initial application of communications facilities that are uniquely suited to the needs of the health and education community, including the purchase by grantees or contractors of necessary telecommunications services from commercial carriers.

The bill would authorize appropriations totaling $35 million over five years.

I am also enclosing for your convenience a brief summary and analysis of the proposed legislation.

I urge prompt and favorable consideration of this proposal.

The Office of Management and Budget advises that enactment of this proposed legislation would be in accord with the program of the President.

Sincerely,

CASPAR W. WEINBERGER,
*Secretary.*

Enclosures.

## SUMMARY OF THE TELECOMMUNICATIONS FACILITIES AND DEMONSTRATION ACT OF 1975

The basic purposes of the Telecommunications Facilities and Demonstration Act of 1975 are (1) to extend the educational broadcasting facilities program for five years and (2) to provide authority for the Secretary to support demonstrations in modern telecommunications technologies for the distribution and dissemination of health, education, and other social service information. The Act would modify the role of the Department of Health, Education, and Welfare in educational broadcasting to include not only direct support for particular facilities identified in the Communications Act of 1934 (hereinafter "the Act"), which are over the air radio and television broadcasting stations, but also more indirect support, through demonstration grants and contracts, of a wide range of modern telecommunication technologies. In many instances such technologies may provide a more efficient and economical means of meeting some of the country's health, education, and social service needs.

The Act would have the short title of the "Telecommunications Facilities and Demonstration Act of 1975".

Section 2 of the bill would modify the headings of part IV of title III of the Communications Act of 1934 and of subpart A thereof to reflect the amendments made by this bill. The declaration of purpose contained in section 390 of the Act would also be amended to reflect the broadened purposes set forth in this bill.

Section 3 would authorize the appropriation of $7,000,000 for fiscal year 1976 and for each of the four succeeding fiscal years. Sums so appropriated would remain available to fund applications submitted prior to October 1, 1981.

Section 4(a) would amend the eligibility requirements for the educational broadcasting facilities program to include nonprofit colleges and universities as well as publically supported institutions. Section 4(b) would amend the funding criteria for the educational broadcasting facilities program to emphasize (A) the strengthening of the capability of existing noncommercial educational broadcast stations, (B) adapting existing noncommercial educational broadcast facilities to additional educational uses, and (C) extending noncommercial educational broadcasting services with due consideration to equitable coverage of all areas in the country.

Section 5 adds to the Act a new section 392A which would authorize the Secretary to make grants and contracts in order to provide demonstration projects for the development of nonbroadcast communications facilities and services for the transmission, distribution, and delivery of health, education, and social service information. Any public or nonprofit private agency, organization, or institution would be eligible to participate in the program. Subsection (b) of the new section sets forth the requirements which applications for grants or contracts for telecommunications demonstrations must meet. Such applications must provide assurance:

(1) that the project offers reasonable promise of demonstrating innovative methods or techniques of utilizing nonbroadcast telecommunications equipment or facilities which relate to the purposes of this section;

(2) that the applicant will retain administrative control of the project;

(3) that the applicant has the management and technical capability to carry out the project; and

(4) that acquired facilities and equipment will be used only for health, education, and social services purposes.

Subsection (c) of the new section 392A would authorize the Secretary to pay up to 100 percent of the approved costs of any project.

Subsection (d) would prohibit the use of funds under the new section for construction of structures, but would permit necessary minor remodeling which is incident to the installation of equipment and facilities.

Subsection (e) provides a definition of the term "nonbroadcast telecommunications facilities".

Subsection (f) provides that demonstrations funded pursuant to this section may continue for a period of not more than three years.

Subsection (g) requires grantees to submit annual summary and evaluation reports.

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OFFICE OF TELECOMMUNICATIONS POLICY,
EXECUTIVE OFFICE OF THE PRESIDENT,
*Washington, D.C., May 30, 1975.*

Hon. HARLEY O. STAGGERS,
*Chairman, Committee on Interstate and Foreign Commerce, House of Representatives, Washington, D.C.*

DEAR MR. CHAIRMAN: This is in response to your request of April 24, 1975, for the views of the Office of Telecommunications Policy on H.R. 4564. This bill, proposed by the Department of Health, Education and Welfare (HEW), would amend Part IV of Title III of the Communications Act of 1934 by extending the Educational Broadcast Facilities Program and by providing authority for the support of demonstrations in non-broadcast telecommunications technologies for the distribution of health, education, and social service information.

We have reviewed this proposed legislation, as well as the explanation of its purposes as set forth in Secretary Weinberger's letter of March 3, 1975, transmitting the bill to the Speaker of the House.

We concur in HEW's explanation of this proposal and recommend that the Committee act favorably on the bill. The Office of Management and Budget advises that it has no objection to the submission of this report for the consideration of the Committee and that enactment of the proposed legislation would be in accord with the program of the Administration

Sincerely,

THOMAS J. KELLER,
*Acting General Counsel.*

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Mr. MACDONALD. Before we hear from the first witness, Mr. William A. Morrill, who is Assistant Secretary for Planning and Evaluation of the Department of Health, Education, and Welfare, I would like to just make a couple of gratuitous, perhaps, but valid statements of my own concerning Mr. Morrill's appearance here today. Not that you are not very welcome, Mr. Morrill, because indeed you are. We are very happy to have you here with us, but for the life of me I cannot understand why we don't have the benefit and the distinguished presence of the titular head of HEW, Dr. Caspar Weinberger.

The reason for my saying this is based on two or three rather key reasons, one of which deals with the past and one which deals, of course, with the future, because as long ago as October 1973 I had occasion to come into possession of a memorandum which later was identified to me at the time as being from the Secretary and later this was confirmed, I think, both by the Secretary and other people at HEW, which memorandum, at least in my opinion and, I think, in the opinion of most of the Congress and certainly the members of this subcommittee, pretty directly opposed what we felt was contained, and indeed, was contained in the Communications Act, which set up that section of jurisdiction which was to be administered by the Department of Health, Education, and Welfare.

I will read the memorandum to you. I think you probably have a copy of it. I know I discussed this matter by phone with Mr. Weinberger at the time when he told me he could not appear. I asked him why. He pleaded previous commitments. I told him I was perfectly willing to put off the hearings for a while, that only he at that time could identify whether or not indeed the memorandum was from himself, although of course it bore his initials.

I told him that I had been here some time and it was not one of my chief functions or dreams to see what Secretaries of what departments in Washington that I could call before us because I had seen many Secretaries come and go and that I knew he wanted to answer some questions that bore directly on the subject that we were then discussing and which we will discuss this afternoon.

In that memorandum, I don't know its circulation, but I do know the memorandum and it said: "I don't want," and this is initialed by "C. W. W." so I take it it is the Secretary's remarks, but he said: "I don't want regulations that give first priority to any stations. We have enough new stations. I want first priority to be on more equipment for existing stations."

Obviously, that struck me as being rather extreme and rather peculiar, to say the least. I won't use any harsher language, although I both thought it and said it at the time. This is back in 1973 and other things have happened since that time. So it has paled in significance. But it still is rather irritating to have the clear intention of a bill which has passed Congress frustrated by a department head who disagrees with that intent.

So needless to say, I wanted to discuss it with him and at that time, after I told him that it was not my habit of going around just looking to see what Secretaries I could get up before this subcommittee or any other committee on which I might be chairman, he indicated he would come. Then one thing led to another and there was no need for it.

But I now see that in the bill that you did send up or that was sent up, his unilateral action is now contained on page 3 and would write into law that which he put out by fiat on October 1, 1973. So, obviously, with this in mind, I got in touch with, well, I didn't talk to him this time, but I sent a personal invitation to have him testify.

He said that he was busy, and I know that he is leaving. I don't know when exactly, I take it at the end of the fiscal year or some such time, that I would like to discuss the matter with him instead of getting him, and I repeat that you are very very welcome indeed, and this has nothing to do with you directly, although obviously you are involved in it, since you are sitting here and not he.

So I was wondering if he gave you any reason as to why he didn't want to come up today. He didn't give me any.

## STATEMENT OF WILLIAM A. MORRILL, ASSISTANT SECRETARY FOR PLANNING AND EVALUATION, DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE; ACCOMPANIED BY RICHARD A. HASTINGS, ACTING DEPUTY ASSISTANT SECRETARY FOR LEGISLATION (EDUCATION); JOHN CAMERON, BRANCH CHIEF, BROADCASTING FACILITIES, BUREAU OF SCHOOL SYSTEMS, OFFICE OF EDUCATION; AND ALBERT HORLEY, DIRECTOR OF TELECOMMUNICATIONS POLICY

Mr. MORRILL. Well, Mr. Chairman, I thank you for the welcome.

As you perhaps know, the Department at the present time is operating with a Secretary and no Under Secretary. The load on him is therefore extremely heavy. It is not I think for lack of any interest in this matter. He was involved today with a congressional briefing that was held this morning and later today will be with the press on some important regulations that are to be published in the Federal Register tomorrow on title IX with respect to sex discrimination. In order to divide the load in some way, it was decided that I should meet this responsibility and represent the Department.

It certainly in no way reflects on the Secretary's lack of interest in this subject. I am only generally aware of the past events that you made reference to, but I understand that it was resolved. We are here with a proposal.

Mr. MACDONALD. Well, what was resolved? I didn't know anything was resolved. I know he didn't ever come and we never heard from him. If you call that a resolution, I mean there was not any open warfare. The program has been continuing, but I don't know what the resolution was.

Mr. MORRILL. Yes, sir, it has been done, though.

Mr. MACDONALD. What has? Maybe you know something I don't know. How has it been resolved?

Mr. MORRILL. Well, I think the Secretary clearly would not go against the will of Congress. As you know, the program has been making grants which we believe are in accordance with law and which are an appropriate approach.

We are here to express this afternoon to you some proposed changes with respect to emphasis. We hope these changes will be seriously considered. We think they come close to a set of proposals that are not just the Department's view, but those of industry as a whole.

Mr. MACDONALD. That is of course why you are here and I point out to you that contained in the set of proposals, is what he put out by fiat in 1973, contained on page 3 of the bill you sent up and introduced by request by the chairman of the full committee, Mr. Staggers, and the Republican ranking member, Mr. Devine. I don't intend to occupy my entire time by going through past history. I just want to know why he is not here. You said: Well, he had some other commitment or he wanted to talk to the press?

Mr. MORRILL. Well, he had commitments that he needed to fulfill.

Mr. MACDONALD. Well, he could have had this postponed for a day or so. Does he have a commitment tomorrow or the next day? The press is always ready to hear from such an important man as the Secretary of HEW.

Mr. HASTINGS. If I may shoulder some of the blame for it, Mr. Chairman; I recently moved into the Office of the Deputy Secretary for Legislation (Education), and one of our responsibilities is scheduling the departmental witnesses. I am afraid I was not aware of the chairman's obviously intense concern that the Secretary be present here today. Had I known of that I certainly would have seen to it.

Mr. MACDONALD. I don't know. I sent a personal note. Usually you just send it up to the staff, but with that background I figured I would send him a personal note. I told him it was not my intention just to get the Secretary up here to see what he looked like. I had direct questions for him because this is obviously—the memorandum he put out obviously is illegal. It is not up to him to determine communications policy. It is his to implement it but not to change it. He recognizes it by sending up this bill.

Mr. **Hastings.** We certainly respect your views in that regard.

Mr. **Macdonald.** I am glad you do. But I happen to be right.

Mr. **Hastings.** I don't know that he thinks that the regulations were illegal?

Mr. **Macdonald.** I am more than happy you respect my views because I hope my views are acceptable to you because they are correct.

Mr. **Hastings.** Well, I don't think that our general counsel would have knowingly let us publish regulations which were inconsistent with the statute as we interpreted it.

Mr. **Macdonald.** Well, knowingly, nonknowingly, all I know is the second time around he is not here today. I have not personally heard back from his whether he was coming or not.

Mr. **Hastings.** For that I can only apologize. I was not aware.

Mr. **Macdonald.** I repeat, you know, it is like the minister always telling the people listening to them, "Stop sinning." They wouldn't be here if they weren't sinners. He is talking about people who were not there. I am talking to him. I don't know how I am going to reach him. I tried the telephone. I have not tried the telegram, but from your response that is not too great either.

I am delighted he is now answering questions about the Civil Rights Act because I have some questions of my own. Now what committee is he talking to today that has jurisdiction over that?

Mr. **Morrill.** Those regulations.

Mr. **Macdonald.** You called that title VII?

Mr. **Morrill.** Title IX.

Mr. **Macdonald.** Well, I am talking about title VI. I have some questions for him and for you as well.

Mr. **Morrill.** All right, sir.

Mr. **Macdonald.** Which committee is he appearing before?

Mr. **Morrill.** The title IX regulations which are becoming, rather are being published in final form by the executive branch tomorrow. As I am sure you are aware, that is a set of regulations that has drawn a substantial interest.

As a matter of fact, during the public comment period well over 9,000 communications were received by the Department and we have finally been through the process within the executive branch, and the President, as required by law, has approved them. They are becoming public tomorrow and are the subject of the briefings.

Mr. **Macdonald.** You mean you are writing right up to the last minute. Who is going to print it between now and tomorrow morning?

Mr. **Morrill.** The Federal Register. They will appear in the Federal Register tomorrow.

Mr. **Macdonald.** I am glad to hear you work right up to the 11th hour and 59th minute.

Mr. **Morrill.** We try to.

Mr. **Macdonald.** But in any event, I have gotten that off of my chest. I hope you relay it to him. It is not personal, but it is spoken on behalf of the subcommittee who feel exactly the same way I do.

Mr. **Morrill.** All right, sir.

Mr. **Macdonald.** I will be glad to hear you.

Mr. **Morrill.** I might at the beginning of my statement identify the people at the table.

To my far right Albert Horley, Director of Telecommunications Policy in my own office, next to him John Cameron, the Chief of the Broadcasting Facilities Branch of the Bureau of School Systems, and to my left is Dick Hastings, Acting Deputy Assistant Secretary for Legislation in the education field.

Mr. Chairman, I have a prepared statement and will proceed with it.

Mr. **Macdonald.** All right. Now I hope this will be the last quarrel we have today.

Mr. **Morrill.** I hope so, sir.

Mr. **Macdonald.** But, once again, I think you will agree I am right. We have a committee rule which says we are to have your statement 48 hours in advance. When I asked for your statement yesterday, I was informed, not by you, but I was informed that it was being cleared down at the Office of the Budget. Am I correct in that?

Mr. **Hastings.** That is correct, sir.

Mr. **Morrill.** Yes, sir.

Mr. **Macdonald.** So you pay no attention to the 48-hour rule, I take it.

Mr. **Hastings.** Again I have to plead my office responsible for that. We do respect the rules. As I was explaining to the counsel, we try our darnest to get these things up to give the Congress and staff with plenty of time to review.

Mr. **Macdonald.** I wrote the letter to Mr. Weinberger in May.

Mr. **Hastings.** I realize that.

Mr. **Macdonald.** Early May.

Mr. **Hastings.** I realize that, but there is sort of an immutable law that seems to operate in the field, the longer you give the Office of Management and Budget to review your testimony, the longer it takes them to review it. We had some last minute back and forth sessions with them on that.

Mr. **Macdonald.** I am glad they were back and forth.

Mr. **Hastings** They definitely were back and forth.

Mr. **Macdonald.** Usually it is mostly they who are difficult, and I for one went into that with the FCC and they said to the Office of the Budget "We have been asked by the Congress, of whom we are an arm, for this report, and unless you get it back to us by a certain date we are sending it up" and that is exactly what they did.

If you followed the same procedure, maybe we would have had the advantage of having had a look at whatever statements you are going to give to us.

Mr. **Hastings.** Regulatory agencies have a little more freedom or disregard for that rule, I think, than perhaps others parts of the Government.

Mr. **Macdonald.** You know, that is debatable. I don't know which side I would come down on on that one. I will just let that one go and stick to what I know I am 100 percent right on. We will be delighted to hear from you, however, later.

Mr. **Morrill.** Thank you, Mr. Chairman and members of the committee.

Mr. Chairman, distinguished members of the subcommittee, I am pleased to appear before you today in support of H.R. 4564, the Telecommunications Facilities and Demonstration Act of 1974. In my testimony today, I would like to summarize how far we have come in this program to date and what our objectives should be in the years ahead.

The Congress placed HEW in the field of public broadcasting more than a decade ago in order to assist in the creation of broadcast facilities capable of bringing the world of noncommercial television, and later radio, into homes across the land.

Our goal from the start was to establish an intial capacity, a foundation, upon which stations could and would build in the future as needs and technology changed. To this end, the Department supported the Educational Television Facilities Act, authorized by this subcommittee in 1962, which provided for the first time Federal financial assistance to stimulate the creation of noncommercial educational television capabilities. Five years later this act was modified to authorize support of noncommercial educational radio and to create the Corporation for Public Broadcasting.

The 494 grants awarded by the educational broadcasting facilities program to date have made possible the creation of a system of local stations which are able to provide local, regional, and national ETV service to approximately 80 percent of the population and educational radio service to 65 percent of the population. Federal assistance has helped activate approximately 60 percent of the existing ETV stations and played a major role in developing approximately 65 percent of the public radio stations on the air.

Since 1962 the number of ETV stations has increased from 76 to 256, located in 48 States, the District of Columbia, the Virgin Islands, Puerto Rico, American Samoa, and Guam. In addition, a number of communities and several State telecommunications agencies are actively planning to establish television stations.

More recently, we have seen considerable growth in the area of public radio. When Federal help first became available to noncommercial radio in 1967, only 67 of the more than 400 noncommercial radio stations on the air were capable of fully serving the comunity to which the frequency was assigned. Today, 166 full-service radio stations so-called that meet the standards recently developed by the Association of Public Radio Stations, are located in 39 States, Puerto Rico, and the District of Columbia.

For a variety of reasons, a portion of the covered population are only potential viewers of educational television. Some residents are unable to receive a clear signal. For example, the District of Columbia metropolitan area is within the potential coverage area of three UHF stations.

Yet low power, elevation differences, and interference by large buildings, result in a signal that is of lesser quality than that offered by local commercial UHF and VHF stations.

We are cognizant of the fact that improved transmission and reception facilities are needed to effectively reach many of the potential viewers of public UHF stations. Another approach to this problem which we feel deserves more attention is the improvement of UHF receiver performance.

Stations constructed with grants from the Educational Broadcasting Facilities Act provide Americans with programing in their homes and schools. Noncommercial radio and television broadcast facilities are being used to focus on matters of local, State, and national concern including nutrition, health, the environment, drug abuse, problems of the aged, and other areas where instructional or informational programing might prove beneficial. The facilities funded by DHEW have also produced and disseminated programs dealing with local issues like unemployment, welfare, and law enforcement. Such cost effective and educationally successful programs as Sesame Street, the Electric Company, Carrascolendas, Feeling Good, and others are available to large segments of our population only because the stations assisted by the Educational Broadcasting Facilities Act are in place and serving a large percentage of our citizens.

In achieving the results to date, Federal investment in facilities has been less than $100 million in a total expenditure from public and private sources exceeding $1 billion. Over the past quarter century school systems, universities, corporations, foundations, and other public and private organizations have cooperated to demonstrate and utilize the potential effectiveness of public broadcasting.

Their support has been indispensable to the creation and development of stations designed to serve local communities throughout the Nation. Wherever public broadcasting exists today, it does so because such institutions and individual citizens have continued to provide support through dollar contributions, donations of goods and services, and volunteer performances.

The Federal role has, in summary, been a relatively small, but, I believe, critical one in assisting in the development of current capabilities.

With this summary of what the program has accomplished to date, I would like to turn to the future—first with respect to facilities and then with respect to our request for demonstration authority.

In the facilities area, the first issue which I perceive is whether the original concept of the HEW facilities program should be altered. It is our view that the basic purpose was, and is, sound and should not be altered. The implications of this view are particularly important with respect to replacement of existing facilities as they wear out.

It is our view that the HEW facilities program is not the appropriate mechanism to provide support for what is clearly an ongoing operational expense for public broadcasting. To the extent that Federal support is warranted at all, we believe that the proposed community grant provision of the administration's CPB authorization bill would be the appropriate mechanism for such purposes. Among other things, it gives maximum flexibility to local stations, permitting them to make an optimal division of Federal funds between capital plant and other operating expenses.

The remaining funds needed for depreciation should come from other non-Federal sources. I would also note that the community grant provision assures every qualifying station funds each year, while the HEW program involves Federal decisionmaking on individual station applications. Thus, the community grant seems more appropriate for handling financing for depreciation, and would provide needed encouragement for stations to maintain a capital reserve fund.

The second important issue involves what our objectives should be in fulfilling the original and continuing mission of providing a basic noncommercial television and radio capability.

With only about 65 percent of the population currently able to receive public radio service, we are clearly short of adequate service. Our major thrust for radio now and for the next several years, therefore, should be to activate new stations and expand and upgrade low powered, 10-watt stations. Our expectations are that over the next 5 years we should be able to achieve radio coverage in the range of 80 percent of the population.

With respect to television facilities, our calculations are that nearly 80 percent of the Nation now receives at least a minimally acceptable noncommercial television signal. It is our strong view, and I think it is fair to say, that we are approaching the practical limits of population coverage by broadcast technology. Further coverage improvements are becoming increasingly expensive to achieve. Additional funding, however, is necessary to provide qualitative improvements in such coverage.

It seems to me that there are inevitable uncertainties in projecting total dollar requirements in light of both practical problems and the availability of improved technologies which offer alternative means to achieving similar objectives. Given the overwhelming role of funding from non-Federal sources that has continually existed in this program, it is even more uncertain as to the appropriate amounts of Federal funding needed. Clearly the HEW facilities program will provide only a portion of the necessary resources. The prudent course, therefore, is to move through the 5-year period of these authorizations with some sense of priorities and appraise our achievements as we proceed.

In recent years, most eligible applications for educational broadcasting facilities assistance have sought to update existing educational television facilities rather than activate new stations. We believe that local choice of imported programing and the ability to produce at a level commensurate with local needs are important features deserving emphasis. We have tried to reflect these priorities in H.R. 4564 by giving precedence to the improvement of existing television facilities. Thus, providing color video recorders and color production equipment to existing stations will figure importantly in our future TV grants.

In summary, H.R. 4564 would amend the existing facilities program authorized by title III of the Communications Act of 1934, as amended, to add "private nonprofit colleges or universities" as eligible applicants and to reorder the criteria for making grant determinations. In addition, it extends the educational broadcasting facilities program through 1980 with an authorization of $35 million over the 5 years. These funds would allow us to reach our goal of providing adequate educational radio and television coverage.

Finally, I would like to turn my attention to what we consider to be a significant long-term role for DHEW in this area; namely, support for innovation in the use of telecommunications.

The success of public broadcasting has demonstrated the value of using the telecommunications as a vehicle for providing health and educational services to the Nation. The Department believes the time has now come to consider the contributions that various more recently developed communication technologies can make to public service.

We are, therefore, recommending an extension of the 1962 and 1967 educational broadcasting grant authority to permit the Department to fund demonstrations of telecommunications systems which we believe to have outstanding potential for the provision of health, educational, and social services, utilizing such facilities as community satellite receivers, cable television, instructional television fixed service, and minitranslators. Also, we need to expand the variety and number of services beyond the present one-channel broadcast program to achieve a multichannel service capable of adequately dealing with a variety of activities such as open university programing, library sharing, specialized medical uses, and distribution of school audiovisuals.

The demonstration authority is intended to permit the conceptualization, development, experimentation, and demonstration of cost-effective applications of telecommunications to social service.

Rather than funding large new hardware systems, we seek to assist the educational, health, and other service communities to test and prove applications of existing and potential commercial telecommunications services. To the extent the users are satisfied with the benefits, they may integrate the appropriate technologies into the delivery of their services.

Our demonstration strategy would require a minimum of Federal expenditure to stimulate a rechanneling of large existing local, private, and individual resources toward more efficient and effective service delivery. For example:

High quality audiovisual productions delivered nationwide can replace traditional lectures, thus freeing teachers to offer more individual attention to students.

Inexpensive electronic telecommunications can replace the expensive slow and sometimes difficult process of production and use of large numbers of copies of film and tape.

The use of closed circuit, broadband, interactive communications can make available all or selected portions of national and international conferences in education or the health sciences to interested persons throughout the country in either real time or at their convenience rather than limiting the participants to those few who may travel to the conference city.

The use of broadband, interactive communications networks can equalize the access of isolated health practitioners and their patients to specialty consultants for diagnosis and treatment, including emergency medical psychiatry, orthopedic surgery, and prenatal care.

Information on social programs and eligibility can be disseminated inexpensively via an audio-visual format rather than by repetitive face-to-face lectures by social workers.

Long-term benefits can, in many cases, be achieved by integrating telecommunications into social service delivery systems since larger populations can potentially be served at a lower per capita cost.

In addition, this strategy places selection of applications and program content firmly in the hands of the ultimate users themselves, where I believe it should be, rather than with a federally controlled service. It does this by funding demonstrations, not operational services—leaving the creation of the operating services a matter of local user choice. This is vital in insuring the individual and local determination of the nature of health, education, and other public services, so that these services are responsive to the needs as they are perceived locally.

The demonstration authority is intended to respond to local and community initiative in generating proposals and to aggregate these local efforts to achieve the economy of scale necessary for practical implementation.

A few probable projects are already apparent. One possible use of the demonstration authority would be in the field of satellite technology. The level of initiative and interest shown by the health and education communities in this type of service, partly as a result of the recently completed ATS–6 health and education technology experiments, has been very high. Already, a user-based public service satellite consortium of over 40 institutions has been formed. Its purpose is to make possible nationwide cooperative effort for the design, financing, and use of such a system, including continuation of the ATS–6 experimental services.

A satellite system is particularly difficult to fund locally because it is by economic necessity a national system aggregating and serving the needs of a large number of users. Such a system, however, has particular impact on rural isolated populations, who would not otherwise have access to certain valuable services. It need not be a wholly public satellite delivery system which would be very costly. Rather, partial use of other domestic satellites would permit a small Federal investment to assist in developing a product which could have high payoff in rural areas.

Cable also has great promise, particularly in major cities, for delivery of a wide variety of services. With proper technical characteristics such systems could provide a basis for new or better service delivery. We are considering DHEW participation in the ongoing NSF cable television projects in order to encourage the inclusion of certain social service delivery demonstrations relevant to departmental interests.

We have received a number of small but potentially worthwhile proposals for the innovative use of telecommunications in local service delivery systems. In most cases, the bulk of the resources for such projects are raised locally in kind, but some cash is needed to purchase hardware, such as cameras, recorders, and receivers, and to otherwise supplement ongoing projects.

We believe such Federal innovation funds would be a good national investment. The share of the total authorization we propose to devote to demonstrations will be small, but we believe that the impact of the demonstration program will be substantial.

In conclusion, the Department of Health, Education, and Welfare supports the provisions of H.R. 4564 and urges your committee and the Congress to give them favorable consideration.

Mr. MACDONALD. Thank you very much, Mr. Morrill.

Thank you very much for coming. Mr. Wirth do you have any questions?

Mr. WIRTH. Yes, Mr. Chairman.

Thank you very much for coming.

As you know, I have been long an advocate of public television and public broadcasting and public broadcasting facilities. Insofar as the issues with HEW in the sixties, I am very familiar with them and it seems we are going around much of that same turf except there is less money now than there was then.

I am concerned about your general approach to the 80-percent coverage figure. One gets the impression, I do anyway listening to you reading your testimony and reading other material that has come to me, you are sort of "ceiling off" at 80 percent, as if it is an area that you are stuck at, that getting the other 20 percent is difficult?

Mr. Morrill. It is often true in this field, as in others, that as one moves closer to 100 percent of the objective, the cost of getting the final few percent tends to be high because of specialized programs and because of dispersed populations or other issues.

At some point along the line one makes a judgment that we have probably done as much as we can practically do. I think from our standpoint we are getting close to that point on the television side.

We do think, as suggested in my testimony, that there is more to be done, with particular emphasis on upgrading the existing capacity to provide coverage with services that are now not available.

We believe we are going to, as we push beyond 80 percent, run into high-cost operations.

Mr. Wirth. How do you justify that in terms of serving all of the people of the country? Obviously, we are in a situation where it is pretty simple for you to serve New York City, say that is 4 or 5 percent of the total population of the country and say the Rocky Mountain region, in the 50 percent of the country that is rural, what is the situation?

Mr. Morrill. Obviously there must be a balance here. What we are suggesting in the way of application of different kinds of technologies seems to have some promise, of an offering, if you will, a cost-effective alternative to broadcasting service in rural areas. We believe these are the ones we ought to begin to exploit.

The satellite, for example, is interesting in that respect. We are exploring what one might do with satellites in interrelation with cable systems where they exist in certain areas of this country to provide service. Perhaps other projects should be undertaken in terms of getting educational broadcasting service out there.

As you mentioned, the rural areas are the tough ones to cover. I think we need to look as much to technology, if you will, as to a brute force solution of trying to get the service there because, in the end, that is what we are trying to do, get service to the people at the least cost.

Mr. Wirth. What kind of special effort are you making in the area? I have been hearing about the satellite for 7 years, but beyond that what other kinds of special efforts are being made in your office at HEW to really pay attention to what I think are the very real needs of people in that region who are not well-served and are in need?

Mr. Morrill. Well, we are just beginning, as you know, to explore what can be done with a cable system in those areas, and many rural areas, by the way, have an existing cable television capacity and how can one inter-relate the noncommercial uses to that cabling system. I don't think we know the answer to it, but it is one that clearly has potential that we ought to look at.

I don't know—Albert, do you want to add any more to that as to other possibilities?

Mr. Horley. Yes, if I may. We have been looking at a number of different technologies which might hold potential here.

Of course, you have to recognize we have had to operate largely in a theatrical environment as there are few funds we can devote to telecommunications. One of the technologies which seems to hold considerable promise is the "mini" repeater stations for broadcasting. These have been tried by the Corporation for Public Broadcasting in Alaska in situations where there are small communities, that is, 50 or 100, or 150, or 200 people, and where those communities also are quite removed from any neighboring community. It is, therefore, not appropriate to try to build a large transmitter, let alone a production facility in these communities.

It is possible to build very low cost, low power, in the neighborhood of 10-watt, transmitters for use in these situations.

Mr. Wirth. Cable does not cost us much?

Mr. Morrill. In the case of these facilities, certainly they are not as expensive as the conventional high-powered, over-the-air broadcasting facilities, but you have the problem of getting basic program materials to them for distribution. In other communities, cable may play the same role.

Mr. Wirth. You have to concern yourself with serving in that reason where you go with cable or other technology, you have to concern yourself with those geographical areas?

Mr. Morrill. I don't deny that the economics ultimately is the factor you deal with here.

What we try to do is find a certain amount of leverage to the development of technology so as to bring those costs per capita served to be more nearly in line with the general national average.

Of course, it will never be exactly the same. There will have to be national policy determinations on equalization of opportunity with respect to resources, but I think one of the real opportunities that a program dealing with new technology through a demonstration approach can offer is in terms of finding solutions to provide service on a nationally available basis, equalizing that access, if you will.

I think the video record technology, "mini" repeater technology and cable, the whole range of these things will ultimately fit into a large pattern of intercommunications services.

Mr. Macdonald. Will you yield?

Just to put this whole thing back into a proper perspective, it seems to me that we ought to find out what range of money you are talking about. I don't know who to address that to. I don't know how new you are.

Mr. Morrill. Well, I have been at HEW now about 2 years, Mr. Chairman.

Mr. Macdonald. That certainly ought to be long enough.

Mr. Morrill. Which I understand is pretty close to the average lifetime of an Assistant Secretary at the Department. I might say this is not my personal subject.

Mr. Macdonald. Before you get into that, I would like to get into the context, which I know is of interest to the subcommittee, which has already been discussed by the gentleman from Colorado, Mr. Wirth, who is very interested in this whole subject.

What I would like to know is, what kind of money are you talking about when you say, "Well, we are going to put so much in this and so much in that and this is a good idea and that is a good idea"? It seems to me that you talk big, but you talk small money.

**Mr. Morrill.** Well, in this demonstration area, that is indeed true. We are talking small money. Let me suggest why I think that is possible, to talk small money in this particular area.

**Mr. Macdonald.** Well, I first ask you because time is running on us, as I understand your entire bill, there is only $35 million?

**Mr. Morrill.** $7 million a year over a 5-year period.

**Mr. Macdonald.** Yes; $7 million over a 5-year period to make $35 million. Then, as I understand it, earlier this year, the President attempted to cut $5 million out of that rather infinitesimal amount. What was HEW's position about that cutback?

**Mr. Morrill.** Well, our view, I think, as reflected both in this bill and what is printed in the budget estimate, that is, we thought that $7 million a year was adequate, as the chairman recognizes.

**Mr. Macdonald.** Well, what about the recommendation—let me put it that way—the Congress refused to go along with it, I will relieve your mind of it because it didn't happen, and what position did the HEW people take as far as this money thing that Mr. Wirth and I are both very interested in?

**Mr. Morrill.** Well, I think it is our view, and necessarily as expressed in what we have before you, that we thing the $7 million is juscifiable.

**Mr. Macdonald.** That is now. What was it like when the President proposed his cut? Did you say, "Go ahead and cut it" or did you ignore it?

**Mr. Wirth.** If you will yield.

What was your recommendation to OMB last year for your program?

**Mr. Morrill.** I think our recommendation last year, as I recall, was at the $7 million-a-year level as it went to OMB.

**Mr. Macdonald.** When he suggested this rescission, what was your recommendation?

**Mr. Morrill.** I think our discussions are a little theoretical in terms of that proposed cutback. It didn't as you say happen.

**Mr. Macdonald.** It didn't happen, but he wanted to hold back the $5 million.

**Mr. Wirth.** Maybe it might be helpful if we can get what the Office's request to the Office of Education was and what their request to the Secretary's Office was and what the Secretary's Office's request was to OMB and trace it back and see what the people working in the program thought would be desirable funding for that program. Then we can watch step by step by step as it goes through.

**Mr. Macdonald.** I can cut through that, because these are rather leading questions I have; whatever the answers are, I have here what the official answers were, because I sent a letter to the Office of Management and Budget, and it was received by them on February 20, 1975, in which they replied to my letter of February 5 concerning the policy toward Education's educational broadcasting facilities program, and they said that the language of the rescission did not reflect a change.

**Mr. Morrill.** That was my understanding also.

Mr. **MACDONALD.** And that both legislation and rescission are intended to reflect the same policy, so rescission and the policy that you are saying you are advocating are two different things because they were withholding $5 million.

Mr. **MORRILL.** I believe the rescission request was against an appropriation that had run $12 million. The DHEW rescission request was to take it back to the $7 million that the Department and administration had originally requested before the Congress acted. The rescission was denied by Congress.

Mr. **MACDONALD.** I will go back to this question: What is your policy about money? Do you think that $35 million is going to do the job over a 5-year period?

Mr. **MORRILL.** Let me return to a couple of points I made in my testimony.

Mr. **MACDONALD.** The hearings have to be recessed for a vote. We will recess for about 10 minutes and will resume on this subject, and you can get your heads together on it while we are going about what you think about money.

[Brief recess.]

Mr. **MACDONALD.** Back on the record.

Mr. **MORRILL.** One more word on that decision.

I think during the break period I was confirmed in terms of what had happened. I think it was a misunderstanding in terms of what was being suggested that resulted in that letter from OMB to yourself, that the rescission itself was to take the money back down from a $12 million appropriation to the $7 million which was the original Department request.

In accordance with the Budget Reform Act, that was put before the Congress as a proposal, turned down, and that was that.

But that was those particular sets of events.

Mr. **MACDONALD.** But that didn't have to do—well, your facts are correct, but it didn't have anything to do with my attitude about your attitude toward the money because we had appropriated $12 million, and the President said he was going to keep the $5 million, taking it back down to $7 million, which is now in this bill.

Mr. **MORRILL.** Yes, sir.

Mr. **MACDONALD.** So it is really a cut—which the President could not get away with. You are proposing that we just accept that. I was wondering what your theory behind that was. There is still a $5 million rescission.

Mr. **MORRILL.** Well, let me say I think that the President was, first of all, not trying to get away with anything.

Mr. **MACDONALD.** I didn't accuse him with getting away with anything. He didn't get away with anything.

Mr. **MORRILL.** One comes before the Congress and in the overall fiscal situation in 1975 and 1976, there has been an effort across the board in the Government to hold dollar expenditures down.

Mr. **MACDONALD.** You know, I have heard that more than you have, believe me, so I don't need a lecture about holding down the budget because we have our own budget. We got so tired of hearing other people talk about it we wanted to talk about holding down our own budget so we passed a budget limit of our own. That is not the point.

My point is, what is your attitude about the $5 million?

Mr. MORRILL. Our attitude about the $5 million was that we had originally requested $7 million in 1975, and we thought that was an adequate amount. That didn't come about, so we are going to spend the additional dollars, now that the rescission has been turned down.

I would like to also answer your request about the amounts in the proposal of the authorization, and talk, I believe you were, at the end of the last session, asking me to respond to "How is this $7 million going to be used?"

Mr. MACDONALD. I didn't get to it yet.

Mr. MORRILL. I am sorry.

Mr. MACDONALD. I was saying you were saying a lot of things that it can be used for, but you needed an awful lot more than that.

What I didn't understand, you talked throughout the statement, as I read it, and you combined the facilities money together with demonstration money and I was wondering some place there, and never mind the side things that were being discussed, just in those two big items, how you intended to distribute that amount of money?

Mr. MORRILL. Yes. That was a question I was going to speak to now, also, harking back to some things I said in my testimony.

First of all, with respect to public radio portion of the facilities side, there is an on-going job there to be done which we think is within the dollars that will be available in the authorization request. We can make a meaningful improvement in the current 65 percent coverage, and we think public radio can get within the range, over 5 years, of 80 percent population coverage with the help of those dollars.

With respect to television facilities we think we can make, as suggested in the testimony, some real improvement in the capacity of existing stations.

We are uncertain as to how much we can practically do about expanding the percentage coverage in pure quantitative terms.

We know there are qualitative improvements that we can and should make. I think that it is pretty hard to say, you get a lot of numbers in this business. "How much it takes to get up there."

Some figures I have seen would suggest we would have to invest, to get from 80 to 90 percent, as much money as we have invested in the whole history of this program. I think this projection underscores my response to Congressman Wirth, that at some point we will get to a point where, from an economic standpoint, or a cost effectiveness standpoint, we are not obtaining an adequate return for investment.

Mr. WIRTH. What coverage are you at?

Mr. MORRILL. I think it is conceded now we are at a minimum coverage of 80 percent.

Mr. WIRTH. What kind of percentage figure do you have, an economic percentage that 80 percent ought to be the cutoff?

Mr. MORRILL. I am not sure it is.

Mr. WIRTH. Your assumptions, everything you have been saying suggests that 80 percent is the cutoff point and not 90, 70 or 60.

Mr. MORRILL. I do not believe that anything we have said indicates that we have adopted an 80 percent figure. I think we are getting close to the point of diminishing return. I am not, however, at this time saying a particular percentage is the right number.

Mr. WIRTH. What kind of analysis do you have that suggests we are getting close or we didn't pass the economic point a long time ago?

Mr. Morrill. I think some of the numbers now being used to say how much funding is needed to get from 80 to 90, which approach the size of the entire Federal investment in public broadcasting facilities to date suggests, at least by inference that we are getting close, to the point of diminishing return.

Mr. Wirth. I heard the argument made frankly by others it is really at 90 percent you start to get diminishing returns and you are ducking behind an 80-percent figure in an unrealistic fashion.

Mr. Chairman, could we leave the record open for them to submit whatever kind of analysis they have done? My suspicion is your analysis is not done.

Mr. Macdonald. That is my suspicion, too. I think, while I agree with you, Mr. Wirth, and will certainly acquiesce in your statement, I think we ought to spell out (A), (B), (C), (D), (E), what we want in an analysis or else we will just get a long work, with all due deference to the Department. I don't see how you are going to expand, and Mr. Wirth and I talked to you about the same thing in different language, I don't see how we can go along with your statement about the need to expand the variety and number of services and so forth. How are you going to do it without money to do it with?

Mr. Morrill. That brings me to the response on the adequacy and what the dollars look like for the demonstration side.

My view is we are talking in the near term of less than $1 million in any given year in terms of those demonstrations.

Let me say a word as to why that small amount of money ends up turning out to be meaningful and allowing us to do a number of worthwhile things.

As we try out new technologies, there is typically a number of, if you will, researchers or groups interested in trying something out, often with some Federal funds like in the health community or within the National Institute of Education or some who have a specific application they would like to try. They will be putting their R. & D. dollars on the line with that in view, and what this authority permits us to do is to take a number of such users who are interested in a similar type technology and allow them to assemble a shared technological facility that is more effective than the individual experiments.

It is not a large set of dollars, but it leverages a very high number of dollars of both the Federal and non-Federal kind.

Mr. Macdonald. Could I ask you this question on that point? I don't know who you had in mind about people who fiddle around with figures. I don't think you mean that people fiddled around with the figures in the 1976 budget, I don't think you would say that, would you, the administration budget or OMB budget?

Mr. Morrill. I am not sure of what you mean.

Mr. Macdonald. Let me read you this. In the 1976 budget, it is stated that, and I quote it directly:

> Amounts requested will provide for activating three new educational TV and six new educational radio stations and upgrading and expanding ten educational TV and seven educational radio stations.

Now do you think that is all that you can foresee in the fiscal year 1976 to help you do all of the things you wanted to do? Do you think there is enough money in that budget to be able to do all of the things you want to do and still stick within this?

Mr. **Morrill.** Yes, sir.

Mr. **Macdonald.** You do?

Are you telling me that you think 3 new TV stations and 6 new educational sections and to expand, whatever that means, if you mean expand you can put in a new men's room, expand 10 educational TV and 7 educational radio stations, and that is all you need in the year 1976 to expand your services?

Mr. **Morrill.** We think that that can be accomplished within the dollars.

Mr. **Macdonald.** All right, in the number of dollars you requested, which I think is a very stingy amount to do all of the things you say in your statement that you want to do.

Mr. **Morrill.** Well, I think, Mr. Chairman, we are talking here about not just a 1-year program but a 5-year program and what we are hoping to accomplish with that level of dollars over that 5-year period.

Mr. **Macdonald.** Well, in other words, you are satisfied with what the 1976 budget gives you?

Mr. **Morrill.** Yes, sir.

Mr. **Macdonald.** How much money do you spend on American Samoa?

Mr. **Cameron.** Mr. Chairman, we made a grant to American Samoa last year in the amount of $164,000.

Mr. **Macdonald.** $164,000?

Mr. **Cameron.** The amount is not exact. That is only my recollection. I will be glad to furnish the exact amount.

Mr. **Macdonald.** And that is the entire amount of educational funds spent in American Samoa?

Mr. **Cameron.** Educational facilities money; yes, sir.

Mr. **Macdonald.** That is how kids learn how to read and write and add and subtract and do all of the things they are supposed to learn in school?

Mr. **Cameron.** America Samoa has a rather sophisticated television education system.

Mr. **Macdonald.** That is what I was told. Have you been there?

Mr. **Cameron.** No, sir.

Mr. **Macdonald.** Well, I would advise that it would do the Department good and it would not be a waste of money, it is not the best climate in the world or anything else, but you would save the Department money to go there, because what you are doing with the $164,000 seems to me is wasting it. I don't think that anyone is learning anything. I think the way we treat the American Samoan people is a disgrace, the children trying to get an education when they are depending on an education that is really nonexistent.

Mr. **Cameron.** I will make immediate plans to go, sir, in pursuance of your suggestion.

Mr. **Macdonald.** I understand there is an opening coming up in the governorship. Maybe you can do something about it there, I don't know.

Mr. **Cameron.** I know the Governor, sir.

Mr. **Macdonald.** Well, then, you can either agree with me or disagree with me. I went there at the behest of a gentleman who used to be very active there, Mr. H. Rex Lee, who later became a well-known member of FCC, and he was just as appalled as I was at what had happened.

But do you expect us to just take the bill that you have sent us and say "That is enough for HEW's needs in fiscal year 1976" and expect to do anything in particular with it?

Mr. **Morrill**. I think we can do a job with that $7 million and make it do a lot of good.

Mr. **Macdonald**. How many facilities applied for grants in fiscal 1975?

Mr. **Morrill**. In 1975, there were 79 new applications received.

Mr. **Macdonald**. And how many facility grants were made in 1975?

Mr. **Cameron**. The 1975 grants have not been made yet.

Mr. **Macdonald**. Then it is none?

Mr. **Cameron**. None.

Mr. **Macdonald**. How much money would it take to fund the requests for facilities grants?

Mr. **Morrill**. Well, the amount on new applications, the amount requested was $18.1 million and those that were already pending, which were an additional 114, the request was for $25.4 million, or a total of $43 million of amounts to be considered.

Mr. **Macdonald**. Yet none has been made for 1975?

Mr. **Morrill**. Yes, sir.

Mr. **Macdonald**. Are you moving along on the planning route?

Mr. **Morrill**. Yes.

Mr. **Macdonald**. How far along?

Mr. **Cameron**. The grants are ready and as soon as the computer can respond, they will be out.

Mr. **Wirth**. These are new, 114 pending and 79, these are for new facilities; is that right?

Mr. **Cameron**. No. They are a combination of activation applications with improvement applications and that is the total of the applications on hand.

Mr. **Morrill**. The upgrading is more common in the applicants of recent years.

Mr. **Wirth**. Would you anticipate there would be more requests coming in from other communities, 43.5 total application requests?

Mr. **Cameron**. There will be other requests coming in.

Mr. **Wirth**. In fact, what would be your estimate of what other requests would be coming in, not quite that high?

Mr. **Cameron**. I have made no estimate.

Mr. **Wirth**. What is your best guess, 43.5 again?

Mr. **Cameron**. Are you talking for each year or for the 5-year period?

Mr. **Wirth**. Over the next 5 years.

Mr. **Cameron**. Over the next 5 years, it probably would be double that.

Mr. **Wirth**. On the basis of those figures alone, $35 million over 5 years does not even cover the kind of requests pending and new requests in fiscal 1975, so it is difficult to say that you are honestly covering the needs that are being determined by your own figures, Mr. Morrill.

Mr. **Macdonald**. Will you yield?

As I understand the calendar, unless they have changed the calendar, how many more days do you have in fiscal 1975?

Mr. **Morrill**. To the end of June, about another 28 more days.

Mr. **Macdonald**. And you have not put out a single request in 1975?

**Mr. Cameron.** May I answer that?

**Mr. Macdonald.** I hope somebody can.

**Mr. Cameron.** The slate of awards was ready from our office, Educational Broadcasting Facilities Program Office, about 2 months ago. The Office of Education, as we understand it, is going to a system of computer printouts on all of its grants this year and our program, even though the grants have been ready, have to take their appropriate place with all of the others from the Office of Education. We are told now that it will probably be between the 15th and 20th of June when the grants will be announced.

**Mr. Macdonald.** When I say "How far are you down the road", I have been told, and maybe I didn't understand correctly, but are you almost there?

**Mr. Morrill.** Yes. It is a matter of 10 to 15 days.

**Mr. Macdonald.** And how many are you going to award?

**Mr. Cameron.** Sixty-two.

**Mr. Macdonald.** And how many were requested?

**Mr. Morrill.** 193 total including carryover applications.

**Mr. Macdonald.** Well, 193, 62, as I make it out, and I am not good at this, but I make it out that there are 131 applicants that are not going to get anything.

**Mr. Morrill.** Yes, sir.

**Mr. Macdonald.** Yet you get all of the money you need to help all of the people that need help.

**Mr. Morrill.** Well, I would like to point out a response to that in terms of this program's performance, that it is typically carryover things and has been for several years in varying amounts of dollars, and for one reason or another an application may not go through in a particular year, and that the demand somewhat outruns the total available is a fairly consistent pattern going back all the way to the beginning of the program.

So we are, you know, funding less than the total. That is not new. That has been a continuing feature of the program for some time.

**Mr. Macdonald.** That is a point I have been trying to make, that you don't ask for enough to take care of the people who—well, I am sure you don't get frivolous requests, do you?

**Mr. Morrill.** No.

**Mr. Macdonald.** Of this number, if I can interrupt you, of this number of 193, how many would you say are just plain frivolous requests? Would you say any are?

**Mr. Cameron.** None were frivolous, sir. Some were not ready to proceed for one reason or another, some of which were technical. We had some, for example, that applied for an incorrect license from the FCC and we were not able to fund it. We had others that did not clarify their eligibility when forming a nonprofit corporation for the sole purpose of owning and operating a station.

**Mr. Macdonald.** If they send you a letter and you have people working on these papers I assume?

**Mr. Cameron.** Yes, sir.

**Mr. Macdonald.** How long does it take to send back a faulty application saying "You have not made a proper application"?

**Mr. Cameron.** We could do that with expediency, sir. Our answer to your question was the total number of applications we had received and that is reflected in the 193 figure.

Mr. Macdonald. Well, do you have any figure, in your voluminous notes there, about how many have been sent back for technical deficiencies in the requests?

Mr. Cameron. There have been approximately 30.

Mr. Macdonald. All right, let's say those 30, and I know an actuary can give you those kinds of figures, but say 30 were defective, that would leave 101 that just plain didn't get anything.

Mr. Cameron. Yes, sir.

Mr. Macdonald. Yet you say you are perfectly satisfied with the amount of money you requested for the next fiscal year?

Mr. Morrill. Yes.

Mr. Macdonald. What is the increase over the next fiscal year from 1975 to 1976?

Mr. Morrill. In money terms?

Mr. Macdonald. Money, yes.

Mr. Morrill. The request for next year, for 1976, is $7 million.

Mr. Macdonald. Available.

Mr. Morrill. We don't or we have not had a congressional appropriation for that figure so we don't know yet what the 1976 figure will be.

Mr. Macdonald. I know, they have to be authorized here. I know that. Say you got what you asked for.

Mr. Morrill. How many would be left at the end of 1976?

Mr. Macdonald. How much would be increased over last year, if you got everything you asked for?

Is that any kind of an increase over 1975?

Mr. Morrill. No, it is not.

Mr. Macdonald. It is no increase?

Mr. Morrill. That is right.

Mr. Macdonald. So using those figures it would be roughly the same number of people, if the same number of people applied, it would be 10 people who still might as well forget it, yet you bring all of these new great things to the United States. You are going up to the maximum figure and did you ever decide whether it was 90 percent or 80 percent, Mr. Wirth?

Mr. Wirth. I think I was getting it from the witness at, I think, 80 percent.

Mr. Morrill. Eighty percent is now the current coverage. Some of the applications this year and again next year will be moving to upgrade the quality of the reception within those numbers and others will be for new applications that will move for extending coverage.

Mr. Macdonald. I have two more questions and I have a lot of other questions but I don't have time to ask all of these right now and there are two other members I know have a lot of other questions.

The first I think you answered and if you did it slipped my notes, how much of the money have you allocated between the two large segments of your appropriations, the facilities and the demonstration?

Mr. Morrill. The demonstration would be less than $1 million in 1976.

Mr. Macdonald. $1 million in 1976.

Mr. Morrill. Less than that, sir. Probably more in the neighborhood, I can't, well, we don't have a specific project against that. It is not even yet authorized.

Mr. Macdonald. Just pick a number out of that hat.

Mr. Morrill. It would be less than $1 million.

Mr. Macdonald. Less than $1 million.

How much for facilities?

Mr. Morrill. Facilities would be the $6-plus million.

Mr. Macdonald. Well, I have heard some reports concerning the inefficiency of your policing of the demonstration programs. Have you had any complaints in this area, the policing of the demonstration area?

Mr. Morrill. The satellite demonstration?

Mr. Macdonald. Yes.

Mr. Morrill. Yes, there was some concern about that. The HEW auditors have been into that. Their report is not final. My understanding is that nothing illegal was found. I have not seen the final report. It has not been rendered. Those allegations were investigated.

Mr. Macdonald. They were investigated?

Mr. Morrill. They have been investigated.

Mr. Macdonald. By whom?

Mr. Morrill. The HEW audit agency.

Mr. Macdonald. Not by the National Institute of Education?

Mr. Morrill. Well, the National Institute of Education was, of course, Mr. Chairman, the concerned Agency, but the proper agency for an investigation is our auditors and they were the ones that looked at it.

Mr. Macdonald. Well, GAO is your natural auditor.

Mr. Morrill. We have an HEW audit agency also.

Mr. Macdonald. I would think GAO is a little more impersonal.

Mr. Morrill. I would say our auditors are pretty tough independent minded folks, Mr. Chairman, and they are used to calling them straight as they see it. They have an independent judgment.

Mr. Macdonald. You know I am not saying they don't but I just know GAO does.

Mr. Morrill. Yes, sir.

Mr. Macdonald. They have not been called in to audit?

Mr. Hastings. We couldn't call them in, sir. They don't work for us.

Mr. Macdonald. They work for the Government; they work for the Congress.

I will make you an offer you can refuse. Would you like GAO to investigate you?

Mr. Hastings. I think it might be more fruitful perhaps if GAO took a look at the HEW audit agency report first.

Mr. Macdonald. When is this report going to be ready?

Mr. Morrill. I don't have a precise date. But I know it is in its final stages. We can supply it to you for the record, Mr. Chairman.

Mr. Macdonald. Instead of doing it for the record, can you do it either for me or for the committee staff so we have a quick date?

Mr. Morrill. We will be glad to.

Mr. Macdonald. My last question, I promise, Mr. Frey and Mr. Wirth, will be just this: You are charged with the duties of overseeing title VI of the Civil Rights Act, right?

Mr. Morrill. Yes, sir.

Mr. Macdonald. And you do enforce title VI?

Mr. Morrill. The enforcement program is our Office of Civil Rights with respect to HEW grantees and contractors.

Mr. Macdonald. Right. And you do do it?

Mr. Morrill. Yes, sir.

Mr. Macdonald. Do you have a report?

Mr. Morrill. Well, with respect to this area, I would like to report to the committee there have been, particularly over the last year or so, an increasing number of complaints in the area of the civil rights enforcement.

There are the assurances provided at the time of the applications. Those assurances are routinely reviewed, but the number of complaints have indicated to us that something more is required and at the present time, within the HEW staff, we are in the process of developing specific regulations with respect to title VI enforcement in this area. Those are now under development in the HEW staff.

Mr. Macdonald. I mean this in the kindest way possible, will you please translate that for me? What does that mean?

Mr. Morrill. That means we have been doing a title VI program with respect to applicants.

The amounts of complaints that have been received in increasing numbers over recent years has indicated that we need to do more. What we are doing in the way of more, is to develop a specific set of regulations with respect to the educational broadcast facilities who are grantees of HEW.

Mr. Macdonald. If I understand you correctly, you are not enforcing it because you don't have any standards to enforce?

Mr. Morrill. Well, there have been investigations. First of all, there is the process that the applicants take, that assurances are given, to make sure that the program or activities of the applicant are in accordance with the title VI requirements.

There have been investigations from time to time under the basic title VI. There have not been specific regulations applicable to the educational broadcast facilities area.

We are now in the process of developing those specific regulations to address the kinds of problems we have over the last year begun to have brought to our attention in this area.

I might go on beyond that to say it seems I should say a few things about that problem.

One, with respect to allegations about employment discrimination and what have you, that is fairly straightforward and it is something that the Department is used to dealing with with its contractors and grantees.

When you move over into the area of the program offerings at the response to this or that or the other interested minority groups or women in communities, it gets us into a very much tougher set of issues about how it should be dealt with, both in terms of effective enforcement of title VI and the Federal Government's general posture of staying out of program content.

Mr. Macdonald. What is program content, what does program content have to do with hiring minorities, including women?

Mr. Morrill. The hiring thing, as I said, Mr. Chairman, is pretty straightforward.

Mr. MACDONALD. How many women here in Washington are employed by you?

Mr. MORRILL. By me personally, in my staff, or in the Department as a whole?

Mr. MACDONALD. In the Department dealing with facilities grants?

Mr. CAMERON. There are four women out of a staff of 11, sir.

Mr. MACDONALD. You just have a total staff of 11 handling what?

Mr. MORRILL. The grants themselves. In addition to that, of course there is the Office of Civil Rights which is concerned with this dimension. They have, amongst their employees, both a substantial number of women and minorities. I don't have the precise figures with me today. I, too, have women, for example, working on my staff. The Department has been trying to, within its own employment practices, if you will, to do the best job it knows how with respect to those issues.

Mr. MACDONALD. If you do not have the figures, this is my last request, if you do not have the figures with you, could you furnish for the subcommittee the list and job classifications of how many people you have working full time in this enforcement of title VI?

Mr. MORRILL. All right, sir.

[The following material was received for the record:]

### ENFORCEMENT OF TITLE VI

The Office for Civil Rights is responsible for the enforcement of Title VI of the 1964 Civil Rights Act, Title IX of the Education Amendments of 1972, and in some instance, Executive Order 11246, with respect to noncommercial public broadcasting radio and television licensees receiving federal assistance from the Department of Health, Education, and Welfare. Such funds are dispersed through the Educational Broadcasting Facilities Program, as well as, among others, the Emergency School Aid Act. As a result, this compliance responsibility extends to approximately 146 television and 44 radio stations. It should be noted, however, that the Department has no authority eminating from federal funds distributed by The Corporation for Public Broadcasting.

During the past year and a half, the Office for Civil Rights has made a concerted effort to establish an effective compliance program in HEW assisted public broadcasting. In order to develop sound policy in this complex field, it has been necessary to undertake extensive legal research, prepare guidelines to amplify existing regulations, and train personnel. While developing policy, efforts have been made to inform the industry and the public of civil rights concerns in public broadcasting and to elicit comment and cooperative efforts. Regular contact is made with minority and media groups similarly concerned, as well as with federal agencies and industry organizations, including Federal Communications Commission, Corporation for Public Broadcasting, Public Broadcasting Service, Association of Public Radio Stations, and National Association of Educational Broadcasters.

At present OCR cooperates closely with the Office of Education in providing advice in civil rights matters and reviewing potential recipients. Each applicant for a facilities grant must provide basic civil rights data to OCR, where it is broadly reviewed and forwarded to the appropriate regional specialist for desk review or on-site visit if necessary. Approximately 20 on-site and 50 desk reviews have been accomplished. However, no applicant which has not previously been found in noncompliance and placed in deferral status may be denied eligibility by the Office for Civil Rights under existing regulations; such denials can only be made by the Office of Education on programmatic grounds.

In the matter of complaint initiated actions, OCR is currently investigating 3 individual employment complaints, and is planning two major on-site investigations of alleged discrimination charged by community group organizations. A third community group complaint has been resolved.

OCR expects to promulgate information guidelines to the industry in the near future and foresees an effective compliance program resulting from its preliminary measures to establish sound policy and constructive procedures.

### OFFICE FOR CIVIL RIGHTS

### DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

### PUBLIC BROADCASTING STAFF

| | Name | Title | Series | Grade |
|---|---|---|---|---|
| Headquarters | Jeanna Tully | Special Assistant to the Director | 301 | 15 |
| | Josephine Creighton | Special Assistant for Special Groups | 301 | 11 |
| | Kathy Smith | Secretary Steno | 318 | 6 |
| Boston | Barbara Williams | Equal Opportunity Specialist | 160 | 12 |
| New York City | Harry Wright | Special Assistant to Regional Director | 301 | 14 |
| Philadelphia | Ron Gilliam | Supervisory Equal Opportunity Specialist (Deputy). | 160 | 14 |
| Atlanta | Archie Meyer | Supervisory Equal Opportunity Specialist | 160 | 14 |
| Chicago-Cleveland | Beverly Watts (½ time) | Equal Opportunity Specialist | 160 | 11 |
| | Janet Sias (½ time) | do | 160 | 11 |
| (Cleveland) | Leonard Hamilton | do | 160 | 13 |
| San Francisco | John Palamino (½ time) | Supervisory Equal Opportunity Specialist | 160 | 14 |
| | Pete Hill (½ time) | do | 160 | 14 |
| Denver | Ramon Villarreal | do | 160 | 14 |
| Seattle | Trish Eby (½ time) | Equal Opportunity Specialist | 160 | 13 |
| | Sally Fox (½ time) | do | 160 | 13 |
| Dallas | Alicia Boetticher | do | 160 | 11 |
| Kansas City | James Co | Program Analysis Officer | 345 | 13 |

Mr. Macdonald. Thank you.

Any questions?

Mr. Frey. Thank you, Mr. Chairman. I have a few questions.

First, going back and looking over some statements in 1973, I had an amendment which added $5 million to the program and it was originally a 4-year bill that eventually ended as 2 years. Because of the tremendous need that existed then, we authorized $25 million for 1974 and $30 million for 1975.

As I look back over the figures in the different statements, there is no question in my mind the need is even greater now than it was in 1973.

As a matter of fact, some of the things I hoped we were doing in public radio and in other areas would lead to more stations. We need them for diversity. We don't have enough.

Considering this tremendous need, I have been listening now and read the statements before—why the gap?

Mr. Morrill. Mr. Frey, let me agree in part with some things you said on public radio.

For instance, we agree that we need more stations. We are supposed to activate new stations. With respect to the need itself, my own sense of that is that that need is not a fixed number in time but indeed gets recalculated as we go along.

Indeed each time we go along. Indeed each time we go around both not only with respect to the inflationary factor that is with us all of the time but also with respect to what is perceived to be need gets changed and it tends to get bigger as time goes by.

That is not because we are not getting things accomplished, because the record clearly shows otherwise, that those stations are getting into place and we are making progress on that.

Then I think the question is, having made that progress, how far does the Federal Government go? What should it try to do?

We tried in our statement to outline what we think the objective ought to be and what they ought perhaps not to be.

How far we go in the facilities program, particularly with respect to the television side, as I noted earlier, I think we are getting to the point where we are really beginning, without being able to say precisely what percentage, to push the practical limits of what we can do. On the question of "how far," our view is that we should proceed over the next 5 years doing those things in television, upgrading capacity, activating new stations in some cases where it is clearly warranted, and as we go along to keep a close eye on expressed need to see how well the program is doing. We are continually evaluating "Where is that outer limit?"

Mr. FREY. Well, I won't take a lot of time because I think the chairman has probably covered many of these points, but you hit on two or three things: The costs involved, the need to get us to an 80-percent level from where we are now, for example, and the need for additional radio stations. Further additional coverage in that area is certainly needed. Another factor, which I think is an existing and good thing, is the use of satellites, which I think is great. But everything you are talking about adds to the basic cost.

You are looking at authorizations that were just about in 1 year what you are asking for in 5 years.

I usually don't vote to give a lot of money away but it looks to me as if we are either going to have a public broadcasting network or we are not.

As we are going to see, some people are talking about $355 million needed over 5 years and some about $237 million. Whatever figures you talk about, there is a tremendous gap. I am trying to resolve in my mind how this all can be worked out.

Mr. MORRILL. Some of those numbers are fairly recent and we have not had a chance to look at them. Others we are aware of and wouldn't argue with you about.

I think in addition to the question of what that need is, you also have a question of, given the experience of a match of Federal and non-Federal sources, how much should the Federal Government put into it? That is also an issue. How much Federal stimulation is needed? We know we have stimulated with less than $1 million 10 times that much in other than Federal resources going in to creating this service we are anxious to have.

Mr. FREY. Well, is that in essence the philosophy that you are operating on? The numbers I am sure I would quarrel with because there is this tremendous need. You feel this small amount of Federal dollars will satisfy this need?

Mr. MORRILL. Yes. There is clear need and we have in the past leveled a lot of Federal dollars in terms of being able to create a capacity, but we are clearly not and I don't think the legislation ever contemplated we were going to do it all with Federal funds.

So the question is how much can we get done and can we get meaningful progress and we think we can with the authorization levels we recommended to you.

Mr. FREY. I would be interested in this too. Mr. Chairman, after we hear the other testimony and we have a chance to review the needs, maybe we can go back over this.

Mr. MACDONALD. That is fine. Don't let me embarrass you because I know you serve the Space and Astronautics Committee, but would you mind telling these gentlemen who are interested in satellites, especially domestic satellites, what it cost us last year in the satellite field?

**Mr. Frey.** The total spending in the unmanned satellite field was probably somewhere close to half a billion dollars, depending on the number of launches.

You have to break them down. One thing we have going for us down the line, Mr. Chairman, which I think is really going to change this country around in the years, is the use of the space shuttle. Starting in 1980, it will allow us to put satellites up for peanuts compared with the past.

Instead of building them with the great deal of sophistication you have to have now, we will go back to building them, in essence, as we did in the old horse and buggy days. If they don't work, we'll bring them down and fix them. I think this is one thing down the line we have to look forward to.

**Mr. Macdonald.** I have no quarrel with the gentleman, but I want you to point out the figures we have here, with a $5 million rescission here, which ends us up only at $7 million a year and this is an entire separate program that is involved.

**Mr. Frey.** Yes, sir. Of course, there are different parts to look at, including the ATS-6 and other satellites. I am talking about the entire program we have, including some that go out to the plants.

**Mr. Macdonald.** I think the figures speak for themselves.

**Mr. Frey.** Yes, sir. It is a good investment, Mr. Chairman.

**Mr. Morrill.** If I may add a brief comment, with respect to our approach on this demonstration we are not talking about in this program of buying, if you will, the hardware.

Clearly a satellite of the kind that ATC-6 was, was in the neighborhood of a $190 million investment. But what we are talking about is making use of satellites that are launched either, as in this case, by NASA or prospectively by domestic satellite licensees. We are suggesting buying a service and that comes at a quite different annual price than trying to buy the initial hardware investment. We can do it for a rather low cost, particularly when you add, in any given demonstration or recent project, money that will come in from the technical experiments that NASA does.

**Mr. Frey.** I can't agree with you more. Some day the youth in this country will take a course in art in the Louvre or doctors will look at some kind of new surgery, wherever it is performed, through closed-circuit TV. It will be tremendous.

**Mr. Macdonald.** And I hope they learn how to read and write in Guam and American Samoa before that time.

**Mr. Morrill.** So do we.

**Mr. Macdonald.** Mr. Byron?

**Mr. Byron.** I hope we can do something in Appalachia before we do it in India. I don't know if you are involved in any of that kind of program but I get a little bit upset when I see a domestic satellite program beaming programs into the Appalachia area and then move it over to the subcontinent of India. I don't know if you get into it.

**Mr. Morrill.** I am aware of it, although there was a lot of work that had been done before that occurred. I think it was an experiment that had a planned existence, including that trip to India.

We made use of it while it was here. We think it was valuable, what we did, and we from the Department have indicated to the Administrator of NASA we are anxious to have it come back at the end of its assigned tour there and we think that there are applications so we can make use of it.

Mr. **Byron.** Do you think you will get it back?

Mr. **Morrill.** We hope so, sir. That is our view of it. It is supposed to spend as I understand it about a year providing service in that area. It turned out, as clearly indicated by your comments to me, that from the user's standpoint it was something they felt was valuable and helped them.

Mr. **Byron.** And insofar as Alleghany Community College up in Cumberland, Md., can I tell them they will get it back next year?

Mr. **Morrill.** You can tell them HEW is sure pushing in that direction, sir. We think there is a good chance of it happening.

Mr. **Byron.** One comment I would like to make before Mr. Frey leaves. It is possible today to watch operations and doctors are doing it and we have in Maryland and I would like to invite the committee sometime to come to look at a public broadcast over educational television as it is working.

I don't know how much money you put into it. I know you have put some. I should know, but I don't.

Mr. **Morrill.** We did put in quite a lot.

Mr. **Macdonald.** How much would you say is quite a lot?

Mr. **Cameron.** If you give me a moment I will get that for you.

Mr. **Macdonald.** I thought that was the gentleman from Annapolis who pionered that.

Mr. **Cameron.** In 1967 a grant of $653,000 to the Maryland Educational Cultural Television Commission in Baltimore to activate channel 67.

In 1973 we made a grant of $429,000 to the Maryland Public Broadcasting Commission for Hagerstown to activate Channel 31. I believe that is the one you have in mind.

We more recently in 1974 made a grant for activation of a station in Annapolis.

Mr. **Byron.** That was the one the chairman spoke of. I think it is fair to say the State puts in a good bit of money as well as some subscribers putting in money.

Mr. **Cameron.** Yes. The matching on the Annapolis project was significant, particularly from the State's viewpoint and they put a great deal of money in it.

Mr. **Byron.** Are they on the air yet?

Mr. **Cameron.** No. This fall.

Mr. **Byron.** That will be the biggest?

Mr. **Cameron.** It will probably be the best ETV reception in the Washington area.

Mr. **Byron.** Thank you, Mr. Chairman.

Mr. **Macdonald.** Mr. Wirth.

Mr. **Wirth.** Just a brief question for Mr. Horley.

Could you describe for us your sense of how HEW has evolved its understanding telecommunications and hardware; you started there in 1969?

Mr. **Horley.** Yes, sir.

You undoubtedly are aware of some of the original telecommunications activities at DHEW. We were both in the Department at the same time in the beginning of the program. I would say that the evolution of Telecommunications at DHEW has been rapid. There is a growing realization, both of the magnitude of the total task of implementing an operational system such as Public Broadcasting, and of developing new concepts which we heard of in the demonstration testimony.

I think we should draw a distinction here in the sense that we are not arguing with what one perceives to be the total magnitude of the task of building the public broadcasting facilities. There is some question, I think, vis-a-vis the appropriate Federal contribution and within that category what ought to be HEW's appropriate role.

We, in the testimony, pointed out the issue of capital plant depreciation. I think it deserves more consideration. There is a concern about the Federal Government being able to devote large amounts of dollars to facilities that caused us to look at a different role that a Department such as HEW could play. A role that would to a greater degree be catalytic with respect to creating telecommunications facilities to serve the public interest. We looked at the very, very large investment that is annually made commercially in communication facilities in the country. We looked at what the telephone company invests in a given year, $5 or $6 billion, and at what the commercial broadcasters and other related industries invest and we begin to ask questions "How can we begin to move this commercial capacity in the direction of serving health and education needs?"

I think what we are trying to move in the direction of is a program that allows us to get leverage vis-a-vis these large private investments which are being made independent of any Federal Governmental action, so that is one trend in our policy.

We are not, however ignoring the real benefits that have been derived by building a public broadcasting system. I view that system as having, first and foremost, the important capacity to create program material, and that fact has some important implications with regard to upgrading of facilities.

One wants to create very good studios, very good capacity to make good programing. That is what people ultimately look at.

Second, there is a question of distribution. You asked about the need that occurs to provide rural coverage; whether we had an analysis. We have analyses, but one of the problems with it is it is theoretical.

One draws circles on maps where there are stations proposed and you have to ask if someone applied where you drew the circle. This theoretical study shows that costs climb very rapidly above 85 percent coverage. It is based on the concept of serving the most dense population centers first, which may not reflect the actual pattern of applications.

In actual fact, one has to look at the actual applications when they come in and examine the economics of providing and sustaining a viable service in the applicant's coverage area.

Mr. WIRTH. You remember how difficult it was, when the Office of Telecommunications—whatever it was called—when it started, to get people to understand, primarily in a software agency, the relationship between software and hardware.

Maybe Mr. Morrill can comment on that, how the agency has grown up to understand that. I think it goes very much to Federal regulation in the satellite program, which has the same kind of problem.

Mr. MORRILL. Let me take the first crack and they may want to add.

In 1968, in my own experience I was involved in a fairly large executive branch study of this whole field of telecommunications and where we were going and what directions might be followed.

At that time, I can remember HEW people coming up with that sense of being unclear. They were not too sure how they would integrate telecommunications into their kinds of activities. It tended to be more nearly a dialog that went something like this: "What are you going to do with a thing when you get it?" The answer was: "Well, give it to me and I will figure it out later."

I think we are getting a good deal more sophisticated than that now. It is slow and hard, but I think in part of your question, the recognition that I feel strongly about, is until the users perceive the real benefits in their own terms, it is not really going to takeoff.

I think we are showing some signs, though, in a number of applications, that users are getting together to get their needs in early.

I think that is true. And indeed they have to make the choice within their own program framework and their own dollars and saying: "By golly, here is a better way to go to do the job I am doing."

Now, I think we have made progress over 5 or 6 years in that kind of perception. That is not to say there is not a lot of no man's land where people have not thought about it at all. I think in the social services field we have not even begun to scratch the surface. We are making progress.

Mr. WIRTH. I can remember when the broadcast facilities request would come up to the Office of the Secretary in 1960, there was a tremendous amount of suspicion and a tremendous amount of resistance to that kind of hardware function belonging in the Office of Education. Mr. Cameron, does that feeling still exist?

Mr. CAMERON. We run across it fairly frequently. We run across that type of question, as to subtlety of a hardware program in the Office of Education.

Mr. WIRTH. I thought maybe we would do well to put it all into the Defense Department because we do so well with AWACS, $150 million a copy, and we could have educational television and public broadcasting then for almost 100 percent of the population for the cost of one copy of an AWACS floating radar platform.

Mr. CAMERON. Or move in the other direction and put more hardware programs in HEW.

Mr. WIRTH. It might humanize part of that problem, too, but I had the other thought.

Mr. MORRILL. I know that even if you could do it, and the user was unclear as to what use he would make of it, you would still have a problem.

Out of my own personal experience, I have seen audio-visual equipment where the schools got very enthused and subsequently you would find the equipment in closets all over the country because they didn't know how to get it used in the classrooms properly for quite a while.

The sense of how the user is going to fashion that capability and bring it inside of their environment is a very important step and it has to be taken if this thing is going to succeed.

Mr. WIRTH. I have a summary point I would like to make, Mr. Chairman. I think we have come a long way over the last 6 or 7 years, but that is certainly not reflected in the budgetary figures you are submitting.

You sound very much like HEW of a decade ago with its failings in view of that inadequate budget and yet the Department is ready to tick off that the whole public broadcasting notion is much, much better accepted and much better understood than before, and yet we are doing less about it here. So I find this a very frustrating kind of dilemma to be discussing here.

Mr. MACDONALD. I would just like to add to that, which I think is a very thoughtful statement, if you listened to it, that perhaps unconsciously you are so embarrassed by how much money you spend in other fields, that when it comes to this particular area you feel like an uninvited guest or somehow you overstayed your welcome, because I don't know what your budget is.

Does anyone at the table know what the HEW budget is?

Mr. MORRILL. Yes. The request for 1976 I think totaled for the whole Department about $118 billion.

Mr. MACDONALD. $118 billion and you are up here for $35 million?

Mr. MORRILL. Yes, sir. I might say in my particular job I have the somewhat thankless task of saying, within any given number, "How do you balance out what it is?" "What are you going to do about social security recipients and welfare recipients and the education needs" and this goes on and on and there are a great many demands.

Mr. MACDONALD. They are very happy to watch public television.

Mr. MORRILL. I am sure they are, but they are also interested in sufficient resources so that maybe they can have a set in their house.

Mr. MACDONALD. The struggling public broadcasting, people in the beginning in their infancy, many of the people who get their HEW checks are also beneficiaries of your, shall we say largesse, in giving these facilities a long time ago. Your largesse has been very one-sided, of course.

My last inquiry, this is not a question but an inquiry. You, too, have come up here asking for a 5-year authorization. What are you going to do to help this subcommittee get one?

Mr. MORRILL. Well, I guess what we usually do; that is, recommend and urge as best we can.

Mr. MACDONALD. Whom are you going to urge and recommend? You will probably get a 5-year recommendation that will be taken seriously here, but are you going to go any place else to see if you can be of assistance in getting a 5-year period for us?

Mr. HASTINGS. We certainly intend to support H.R. 4564 actively with anyone on both sides of the aisle.

Mr. MACDONALD. That is very good news and we thank you all very much.

Mr. WIRTH. Mr. Chairman, one final point.

Mr. Byron has pointed out quite properly the concern of the taxpayers of this country for how their money is spent and I think that again raises the issue of priorities and so this is what it is all about.

We save a great deal of technology running amuck at the discretion of the Pentagon. If these people could only understand we can do a much better job in terms of education, social services and so on with just the cost of one of those floating radar platforms called AWACS, and if it is just a terrible waste of money in the technology area where the need here is so very well demonstrated.

This is simply the matter of where we spend our public money and the concerns of the taxpayers as to what priorities we have for it.

I realize you are all behind a different set of priorities as they come down from the White House and OMB and I am sympathetic to that. Maybe you all ought to come to work for this side and push it there.

Thank you, Mr. Chairman.

Mr. MACDONALD. Thank you all very much.

Our next witness is Dr. Gordon A. Law, project director of the satellite technology demonstration of the Federation of Rocky Mountain States.

Welcome, Doctor Law. Inasmuch as the time is growing short and I and others were a little longer with the panel than perhaps we thought we would be, is there some way you can condense your statement and have it inserted in the record as if read and then open yourself to questions from the subcommittee?

## STATEMENT OF GORDON A. LAW, PH. D., PROJECT DIRECTOR, SATELLITE TECHNOLOGY DEMONSTRATION, FEDERATION OF ROCKY MOUNTAIN STATES

Mr. LAW. If you so wish, Mr. Chairman.

Mr. MACDONALD. Well, I won't insist, but if it meets with your approval?

Mr. LAW. It certainly does.

Mr. MACDONALD. I think that would be a useful and good move.

Mr. LAW. Thank you, Mr. Chairman.

Inasmuch as the Chair has entered into the record already the HEW audit, and so forth, I am glad that you took the position that you did to waive the written testimony because I assume that I should be in a position to answer your questions and I will be glad to because I have borne the brunt of three audits in terms of the company I represent and also a personal HEW audit, so I am willing and glad and able to answer any and all questions, so I will briefly introduce in capsule form what we have been about.

My name is Dr. Gordon Law, project director of the satellite technology demonstration, managed by the Federation of Rocky Mountain States in Denver, Colo.

I have prepared and submitted a written statement in support of H.R. 4564 and in dedication to the written statement, I would like to make a brief comment, then respond to your questions.

The bill as we understand it extends for 5 years the EBFP. We support that extension in time. The bill authorizes an appropriaton of $7 million for each fiscal year through 1980.

We believe these amounts are inadequate and should be increased in the bill to provide broadcast facilities grant eligibility to include private, nonprofit colleges and universities, as well as tax supported institutions which were previously eligible.

We believe the private, nonprofit institutions for higher education should be included in the legislation. This bill revises the criteria placed in the original legislation approved in 1962 and the language proposed in section 292(d) proposes or emphasizes inclusion of language emphasizing improvement and expansion of public broadcasting stations to allow for broader educational use of the stations.

We support that revision in the language.

Finally, H.R. 4564 authorizes support of demonstrations in telecommunications technology. The federation's position is, it is important and desirable that telecommunications technology demonstrations should be promoted, authorized and funded. My statement goes into detail on this section of the bill.

Since 1972, the Federation of Rocky Mountain States has been actively engaged in the management and operation of a demonstration in satellite technology, utilizing NASA application technology satellite 6, as well as ATS–3 and ATS–1.

Our experience in the use of satellites for communications to improve the delivery of public services to the people of the Rocky Mountain States qualifies us to testify in support of this section of H.R. 4564.

Our written statement, which has been submitted, reflects our position and the rationale for that position on the legislation which the committee is considering today

That is the end of the statement, Mr. Chairman. I am willing to field any and all questions.

[Mr. Law's prepared statement follows:]

## Statement of Dr. Gordon A. Law, Project Director, Satellite Technology Demonstration, Federation of Rocky Mountain States

My name is Dr. Gordon A. Law. I am the Project Director of the Satellite Technology Demonstration, managed by the Federation of Rocky Mountain States in Denver, Colorado.

The STD is one of six Health-Education Telecommunications Experiments just concluded on Applications Technology Satellite Six, launched by NASA on May 30, 1974.

At present, ATS–6 is in transit to a new location above the equator over East Africa where it will be used in the Indian Satellite Experiment.

In the Rocky Mountain States, as well as in Alaska and the Appalachian region, the Health-Education Telecommunications Experiments concluded on May 20.

We have not drawn the final project conclusions but our preliminary research indicates that project goals have been achieved.

We have demonstrated the feasibility of a satellite-based media distribution system for isolated, rural populations.

We have tested and evaluated user acceptance. The data clearly demonstrates the acceptance of the materials transmitted and the technology by students, teachers, school administrators and the general public.

We have not yet concluded our study of the cost of various delivery modes using a variety of materials. Preliminary indications are that cost effective distribution of health and education services is possible when an entire region is involved in teaching and learning by satellite.

My statement will confine itself to the accomplishments of the Satellite Technology Demonstration in eight western states and to the need for the legislation authorizing demonstrations in telecommunications technology. The committee may want to place in the record comments of the other five HET experimenters. The data should be of interest to the committee in its deliberations on H.R. 4564.

The Indian Health Service in Alaska used two-way video for medical diagnosis. The University of Washington School of Medicine project brought the teaching faculty in Seattle into visual and verbal contact with pre-medical students at the University of Alaska at Fairbanks. The Veterans Administration experiment provided for programming origination in Denver to be seen and heard at ten remote, rural isolated VA hospitals in the Appalachian Region.

In the education experiments the Appalachian Regional Commission used ATS–6 and ATS–1 and 3 to improve and enhance the teaching of reading techniques to teachers of reading.

The State Department of Education in Alaska entered the ATS-6 demonstration to determine how well an experimental system would lay the ground work for an operational system.

These experiments I have mentioned only briefly, but they represent the first widespread use of a communication satellite in the delivery of social, educational and health services.

We believe it would be helpful to the committee in its deliberation on H.R. 4564 to know what has been accomplished by the demonstration and what we have learned as well as a projection of future activities.

The Federation of Rocky Mountain States, Inc., headquartered in Denver, was established in 1966 as a partnership of six mountain states—Idaho, Montana, Wyoming, Utah, Colorado, and New Mexico. (Nevada and Arizona, while not members of the Federation, are also participating in the STD.) Its aim is to involve state governments and private sectors, as well as their resources, in a cooperative effort to solve regional problems and to promote and plan for the orderly development of the region. Its councils and committees are involved in numerous studies and activities ranging from transportation to natural resources, from market development to human resources, from arts and humanities to telecommunications. It is a unique regional association involving governmental agencies and private industry, business, and institutions of higher learning.

### FEDERATION OF ROCKY MOUNTAIN STATES HISTORY AND SATELLITE PLANS

As early as 1968, the Federation began exploring the possibilities of obtaining a satellite-based education project for the Rocky Mountain States, and in 1969 had submitted a proposal to HEW for a project to improve instruction in small, isolated schools in the region through educational television broadcasting via satellite. At about the same time, HEW started investigating the potential educational uses of NASA satellites. In 1971, NASA accepted an HEW request to make $2.5 million in alterations in its planned Applications Technology Satellite (ATS) to keep the satellite open for use with a possible low-cost ground receiver system, assuming that such a system could be developed. During the same year, NASA, HEW (through its Office of Telecommunications), and the Federal Communications Commission sent through to the World Administrative Radio Conference requesting a 2.5 Gigahertz (2.5 GHz) frequency allocation for direct broadcast via satellite. Such frequencies were available for educational broadcasting and would require relatively inexpensive sending and receiving equipment; higher frequencies are much harder to control, thus necessitating costlier equipment.

Shortly after this request, HEW's Office of Education awarded the Federation a contract "to develop and articulate the organizational structure and planning" in preparation for a satellite experiment for the Rocky Mountain Region. A month later the World Administrative Radio Conference in Geneva agreed to accept the U.S. proposal and allocated the 2.5 Gigahertz frequencies. The Federation of Rocky Mountain States stepped up its planning efforts, working out what would be needed to plan and implement a satellite-assisted demonstration for the delivery of social and educational services within the region, such services to be based on the real needs and wants of the potential system users. HEW also stressed that the emphasis of the experiment be placed on the development of the delivery system techonolgy and not broad educational content areas.

In January, 1972, a planning grant was awarded to the Federation. That same month the staff of the Satellite Technology Demonstration began meeting with representatives of NASA, the Goddard Space Flight Center, and Fairchild Industries (which was constructing the ATS-F) to begin designing the ground system equipment for all HET experimenters.

### THE SATELLITE TECHNOLOGY DEMONSTRATION

The STD mission, which is scheduled through June 30, 1975, has involved an extensive application of science and technology to problem-solving in a real world, social environment. It has called for the development of new structures, both public and private, which permit regional, state and local resources to merge in fruitful ways. It has fostered new approaches to the use and coordination of private and public communication mechanisms.

The STD has used the ATS-6 in conjunction with the ATS-3, which has been in orbit and operational since 1967, to explore new modes of audience involvement. Since the ATS satellites offer the capability of two-way audio, the STD implemented this capability by expanding services beyond those available through ordinary one-way television systems. By taking advantage of the ATS-3's built-in audio feedback systems, and by involving the audience in planning and programming, the STD avoided the lack of responsiveness to human needs and lack of participation that characterized some previous attempts to apply technology to the solution of human problems. Further, it is a unique telecommunications system in that it is compatible with existing terrestrial distribution systems, but is also capable of reaching beyond their capabilities and coverage areas to the most remote communities of the United States to equalize their educational opportunities.

The STD directly affected hundreds of communities in an eight-state region which includes Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming, in addition to the 61 terminals serving other HET experimenters in Alaska, the Pacific Northwest, and Appalachia. Products and services resulted from cooperative efforts involving broadcast recipients, colleges and universities, state departments of education, and other government agencies, local advisory boards, consultants, and STD personnel. These products and services were primarily focused around a new National public school priority—Career Education. The project was designed to supplement existing educational programs with a careful blending of hardware, software and personnel.

To promote audience use of the demonstration's products and services, a field support network was developed which made the project an integral part of each state and each participating community. Each state has an operating, state-level coordinator of STD efforts working on concert with local part-time coordinators in each of the 56 school sites. The programs these communities receive are produced by the STD at its television studio located in Denver.

The programming of the STD is categorized as follows:

"Time Out"—a 35-minute program broadcast Monday through Friday which utilizes pretaped segments of dramatization to present career education information to junior high students. In addition, live segments of this program allow the students at the 24 sites with two-way voice capability to ask questions of the STD staff educators and receive immediate responses via the satellite.

"Careers and the Classroom: A New Perspective for Teachers." A one-hour live program broadcast every other week providing career education in-service training for teachers, including a two-way voice segment.

"Footprints." A one-hour evening "special" broadcast every third week which is a series of topical programs designed for the total community, including two-way voice.

"Materials Distribution Service." A central library of 426 educational films covering subjects for grade levels K–12, which can be requested by the 56 sites and are broadcast via the satellite for videotaping by the schools for play-back at a later time.

"Emergency Medical Training Refresher Course." This is a joint project of the Federation of Rocky Mountain States, the Mountain States Health Corporation, and the Rocky Mountain Corporation for Public Broadcasting to develop a series of 8 programs to serve as a refresher course for certificated emergency medical technicians. The STD, working through its field structure, arranged for the use of local site facilities and equipment to implement this program.

The STD is a "user-based" system in that the programs are the result of a needs assessment which was conducted in the region and which allowed the users to define their educational needs. Once the broadcasts began, weekly evaluation reports from both teachers and students provided an ongoing critique of each program and suggested improvements which form the basis of modification of future programs. This close rapport with the "field" is maintained by a field service staff which includes a state coordinator in each of the eight states. The field structure is completed with site coordinators in each site who implement the STD in their community by localizing the STD programs to meet the needs of their unique populations.

The STD, if continued, could lead to a series of experiments in using a wide variety of communication systems to deliver diverse and expanded social services to areas which presently have limited resource and limited communications capabilities. Since the STD is a demonstration, its present goals are directed toward gaining information about feasibility, effectiveness, and cost that can guide future efforts. Naturally, the ultimate goal for this and future efforts will be to produce substantial, long-term, educational, and human benefits.

The STD has brought a vast, rugged land closer together. Because of its geography, demography, ethnology, economy, and educational systems, the Rocky Mountain Region was selected as one of the places where the knowledge of space telecommunication accumulated during the past two decades would be brought to earth to support the activities of human beings.

The Federation's experience as one of the six Health-Education Telecommunications experiments shows that there is a time delay between the development of any new communications technology and its acceptance and application for public benefit.

This lack of understanding, sometimes almost a fear, of new technology when coupled with the normal resistance to change is often costly. The time lag between our technological capability and the willingness to accept and utilize what scientists and engineers have made possible is a matter that concerns agencies and organizations engaged in delivery and dissemination of health, education and related social services.

The Satellite Technology Demonstration, during its operational period from September 9, 1974, to May 16, 1975, illustrated clearly that user acceptance of new technology can be established, maintained and verified.

H.R. 4564, by authorizing support for demonstrations in the communications technologies, will make possible an extension of our preliminary efforts. The same extension, of course, would apply to the other five Health-Education Telecommunications experimenters.

As we at the Federation look at satellite alternatives for the future, we realize we have only begun to tap the tremendous potential of this type delivery system in serving people.

As a result of the Satellite Technology Demonstration, it is well accepted in the eight-state region that communication satellites will play a major role in the delivery of social services in the future.

But, despite the successes gained with ATS–6 during the past year, we need now to identify, select and contract current and new sites and audiences for effective participation in forthcoming satellite technology demonstrations planned when ATS–6 has completed its year of service for India.

We need to continue to utilize ATS–1 and ATS–3 in support of selected ongoing activities to maximize previous investments by providing limited audio interaction to sites with appropriate equipment.

We need to identify and select other subject matter areas that can be addressed by communications satellites in the future.

We need to work with the public television stations in the Rocky Mountain states to develop a pilot project to determine the feasibility and practicality of delivering via satellite regular daily programming to PTV stations from the Rocky Mountain Regional Distribution Center in Denver.

It is interesting to note, in this regard, that two stations in New Mexico—one in Las Cruces, the other in Portales—are not yet interconnected to the national public television terrestrial distribution system. Yet during our recent demonstration, satellite service was provided to the Portales PTV stations and could have been made available to the Las Cruces station by repositioning the satellite beam.

Before major funds are committed to modify the present public television distribution system, a regional pilot project utilizing ground equipment currently in place along with ATS–6, could provide data that might result in major economies of scale when impacted on the national system.

We need to work with the owners and operators of cable antenna television systems and translators. Our experience over the past year demonstrated the need for additional experimentation interfacing our new technology (satellite) with others (CATV and Translators) to determine the most effective system.

We need to demonstrate the emerging role of video cassettes for recording and playback. This new medium will eventually replace film in the American classroom. We need to demonstrate the ease with which this new storage and retrieval mode can be used and the economies that will accrue.

We need to explore further use of two-way audio and video transmissions via satellite and cable. The technology exists. Potential users must be shown and persuaded that the new technology has advantages for them.

We need to encourage the development of the Public Service Satellite Consortium, a new organization that can provide every community with a satellite port of entry. A demonstration should be arranged by the Public Service Satellite Consortium to show the anywhere to everywhere capacity of today's communications satellites.

These are a few of the uses to which funds authorized for demonstrations in telecommunications technologies might be applied. There are many others.

We believe that the authorization level proposed by H.R. 4564 is inadequate. It will not meet the current backlog or anticipated new filings. The inclusion of private institutions in the legislation will result in grant requests. Considerable interest will be generated if telecommunications technology demonstrations are a part of the bill.

Therefore, it is our recommendation that the funds authorized for the support of demonstrations in telecommunications technology be limited to a fixed dollar amount.

The technology demonstration dollars will be a catalyst for funding from other sources. Additional support could come from regional, state or local organizations and the private sector might contribute.

If the "seed" money concept is valid for technology demonstration purposes—and we believe it is—we urge that one million of the seven million proposed for authorization be identified for demonstrations leaving six million for facilities. If the authorization is increased—and we believe it should be—the new technology demonstration share should be increased modestly. It is our position that, in any event, the dollar amount identified for new technology should not exceed $2.5 million. Therefore, we urge authorization for new technology at a minimum level of $1 million and a maximum of $2.5 million. Meaningful, significant demonstrations of the utilization of new technology can be carried out with these dollar amounts.

There have been suggestions that the language proposing new technology demonstrations be separated from H.R. 4564. We are opposed to that because it is cumbersome and could be ineffective.

For the committee to consider separate authorization for new technology and educational broadcasting facilities implies that the activities are not compatible. To the contrary, the Corporation for Public Broadcasting is mandated to develop both broadcast and non-broadcast potentials. By creation of the Satellite Working Group along with the Public Broadcasting Service, National Public Radio and the Ford Foundation, CPB has indicated its interest in new technology.

Separating new technology from activation, expansion and improvement of public broadcasting stations would create unnecessary administrative burdens for the Corporation in its efforts to provide full service to all Americans.

We understand that the Public Broadcasting Service prefers that the language on new technology demonstrations be separated from H.R. 4564.

In view of PBS efforts utilizing new technology in captioning for the deaf, improved audio transmission, improved UHF tuning as well as its participation and leadership in the Satellite Working Group along with PBS membership in the Public Service Satellite Consortium, we see a close relationship between PBS and the facilities-new technology legislation.

PBS has initiated an extensive review of the public television terrestrial distribution system looking to a satellite system.

These changes can be most effective and best coordinated by legislation that supports both the state of the art as well as emerging technology requiring testing and demonstration.

To separate the new technology demonstrations from the act would be nonproductive. It would fragment activities now underway. Separation would put the public broadcasting community in an adversary role with agencies and organizations concerned with new technology.

The Federation believes that the national PTV distribution system should be designed to serve all Americans including the 25 percent of our nation that lives in rural areas. Based on the 1970 census, the 53,886,996 citizens who live in rural areas are a group much too large to ignore in our planning, development and delivery of health, social and educational services.

CPB, PBS and National Public Radio must address this difficult issue, i.e., public broadcasting signals for residents of rural America.

The cost of providing communications services to rural populations by conventional terrestrial systems is too expensive.

Alternate means must be found if the isolated rural segment of our society is to receive adequate education, health and other social services as well as public broadcasting programming.

H.R. 4564 establishes a partnership for success that can not be assured if the new technology demonstrations are isolated from the facilities legislation.

In summary, on the matter of inclusion of new technology demonstrations in H.R. 4564, the Federation of Rocky Mountain States position is that stated by Dr. William Rapp, Vice President of FRMS, in his April 16, 1975, letter to Chairman Macdonald.

Dr. Rapp's letter concluded, "We therefore recommend that the subcommittee review needs for both broadcast facilities and technological demonstration and adopt dollar levels commensurate with expressed congressional intent. We further recommend establishment of congressional guidelines for allocation of appropriated funds for each purpose indicated. We would then endorse the extension of both the Educational Facilities Program and the Technological Demonstration authorization as proposed and request your favorable consideration." (See Attachment)

### SUMMARY

The Federation of Rocky Mountain States endorses and recommends:

Extension of the EBFP for the 5-year period.

Inclusion of Private, non-profit institutions of higher education in the legislation.

Inclusion of language emphasizing improvement and expansion of public broadcasting stations to allow for broader educational use of the stations.

Realistic authorization for appropriations based on established need and future demand.

Specific allocation of appropriation by functional purpose but not to exceed 2.5 million dollars for demonstrations in telecommunications technology.

We request your favorable consideration and action.

Federation of Rocky Mountain States, Inc.,
*Denver, Colo., Apr. 16, 1975.*

Hon. Torbert H. Macdonald,
*Chairman, Committee on Communications, House Interstate and Foreign Commerce Committee, Rayburn House Office Building, Washington, D.C.*

Dear Congressman Macdonald: As the subcommittee considers the "Telecommunications Facilities and Demonstration Act of 1975," H.R. 4564, I wish to reflect the deep and continuing concern of the Federation of Rocky Mountain States in respect to effective and productive development of public broadcasting on our states and region.

If this end is to be achieved, improvement, expansion, and activation of public broadcasting facilities is a necessity and the extension of the Educational Broadcasting Facilities Program through the next five years a prime priority.

The Rocky Mountain Corporation for Public Broadcasting will have supplied a detailed listing of facilities applications pending from the region. The subcommittee is also well aware of the existing back-log of qualified applications pending and the obvious critical short fall of funding requirements vis-a-vis funds requested. For a quick regional overview; there have been filed from our states 19 applications totaling $3.65 million. Of this amount $1.94 million is in applications carried over from prior years and $1.58 million in 1975 filings. We anticipate at least as great a carry-over into next year and also an increase in new applications.

None of our public television stations meet state of the art standards. All should! To do this, the present grant rate will require at least five more years of Facilities Program availability with an appropriation at least equal to the 1974 level. In spite of one and one quarter million dollars of local funds committed for matching, the federal match is impossible at the level of authorization the bill proposes. National figures would indicate that $24 million is necessary for FY 1976 merely to meet the back log.

Obviously then, the proposed $7 million per year is grossly inadequate to meet existing broadcast facilities needs. It is equally inadequate to support additional demonstrations in telecommunications technologies to any meaningful degree. It is impossible to broaden the program as proposed with dollars that are already tight.

We therefore recommend that the subcommittee review needs for both broadcast facilities and technological demonstration and adopt dollar levels commensurate with expressed congressional intent. We further recommend establishment of congressional guidelines for allocation of appropirated funds for each purpose indicated. We would then endorse the extension of both the Educational Facilities Program and the Technological Demonstration authorization as proposed and request your favorable consideration.

Sincerely yours,

William E. Rapp, Ed.D.,
*Vice President.*

## VITAE

*Name:* Dr. Gordon A. Law.

*Date of birth:* January 26, 1928.

*Present Position:* Project Director, Satellite Technology Demonstration, Federation of Rocky Mountain States, Denver, Colorado.

*Present position* (on leave): Professor/Head of Department of Communications, General Manager KUID–FM–TV University of Idaho.

*Former position:* Director, Broadcast and Engineering Component, Satellite Technology Demonstration, Federation of Rocky Mountain States.

*Summary of education beyond high school:*

B.A.—Denver University.

M.S.—Syracuse University.

Ed.D.—Washington State University.

*Summary of other experience:*

Special assignment reporter—*Denver Post* and *Rocky Mountain News.*

Manager—KVDU, Denver, Colorado.

Manager—WAER–FM, Syracuse, New York.

Operations Manager and Salesman—KBTV, Denver, Colorado.

Owner of TV Research, Inc.—Denver Advertising Agency.

Total Media Experience—20+ years.

*Summary of research activities:*

Just completed two state-wide comprehensive studies on total communications network in the State of Idaho.

Pilot study: The effects of varying class sizes and teaching procedures on certain levels of student learning (WSU).

TV Teaching in a New Prospective (WSU).

*Research projects completed:*

Complete demographic research on Idaho voting populace for Senator Church's and Governor-elect Andrus' campaign. This had a dual significance in that not only was the research valid (both won), but it provided me with an entry to the media in the State on a professional basis and not as a member of the University. It, therefore, has provided classroom material and experience not enjoyed by many people who have similar responsibilities at an institution of higher learning. In a nutshell, the above research pinpoints audiences and readers by religion, education, age and socio-economic backgrounds and based upon time and place predicates type of material written, spoken and pictorial, which tells a story. Demographics has become one of the few exact sciences in the world of advertising.

*Publications:*

"Television Operations and Policy Handbook," co-author, Summer, 1964.

"Social Amenities"—film produced U. of I., Spring 1964 (script writer and producer).

"Keystone to the Future"—film produced (co-author and producer).

Produced and directed National FPAC kick-off dinner television show from SUB Ballroom.

Produced Borah Foundation—Viet-Nam Symposium for SUB Ballroom.

Wrote, directed and produced, "This is Frank Church's Idaho," and "This is Frank Church's America."—2 fifteen minute specials for Senator Frank Church.

Produced and directed 90% of political TV spots for the Church campaign.

Co-produced "Campaign Countdown"—Idaho's first state-wide political debates by television.

Wrote and directed University's new PR movie—"University of Idaho Experience."

Numerous (100) film clips for University.

Numerous radio shows.

*Special awards or honors:*

Winner of first prize in TV Film Commercials BILLBOARD magazine contest—1959.

Since coming to the University of Idaho, I have been responsible for the following:

HEW grant of $97,000 for Communications Dept. equipment.

HEW grant $42,000.

Operate Title XI Summer Institute in Media—1965.

HEW grant to run Title XI Institute—summer 1967—$53,000.

Singlehandedly got State Legislature to appropriate $226,000 for educational TV—1969 session.

**Singlehandedly got State Legislature to appropriate $85,000 for operations of ETV network—1970 session.**

**Applied and have received Public Corporation Grant of $17,500 with which to implement community affairs programming at Channel 12—1970–71 fiscal year and 72–72 fiscal year.**

**Honored by the *Boise Statesman* in a Sunday edition with a portrait and biography as an outstanding citizen.**

**Persuaded the State Department of Education to fund the University in the amount of $15,000 to underwrite elementary and secondary instructional programming for TV 1970–71, $39,200 for 1971–72.**

**Chosen as one of the 30 people from 450 applicants to attend seven-day post doctoral conference on media held by the Behavioral Science institute, Oregon State Systems of Higher Education—March 1968.**

***Awards:*** **Following masters and doctoral committees: Roger BelAir, Ronald Sluslarkeno, Bob Van Osdol, George Mills, Patricia Aichele, Roy Aichele, Lawrence O'Hare.**

***Professional Societies and Professional Offices:***

**Western States Radio-TV Conference.**

**Alpha Epsilon Rho, National Radio-TV Honorary.**

**Phi Delta Kappa, National Education Honorary.**

**WSETV Commission.**

**Idaho Educational Radio-Television Commission Chairman—Federal and State Grants Committee.**

**Idaho Audio-Visual Association.**

**Idaho Broadcasters Association.**

**Idaho Press Association.**

**Boise Ad Club.**

**National Association of Educational Broadcasters.**

**Federation of Rocky Mountain States.**

**Council of State Educational Telecommunications Authorities (board member).**

**State Telecommunications Commission (board member).**

***Committees and miscellaneous:***

**Improvement of Teaching Committee.**

**Public Relations Council.**

**Communication Board Doctoral Committee (George Barr) Education.**

**Commander, American Legion Dudley Loomis Post #6.**

**Chairman, Latah County Democratic Party.**

**Member—Image Makers, Latah County media organization.**

**Member—Area Sports Writers and Broadcasters Association.**

**University's Representative on the Idaho-Washington Resource Conservation and Development Project Council.**

**Moscow Chamber of Commerce (board member).**

**Moscow Elks Club.**

**Moscow Chamber of Commerce Legislative Committee.**

**Consultant, NBC Enterprises, Foreign Advisor.**

**Consultant, Anchorage Burrough School Districts, Alaska.**

**Consultant, Mountain Bell.**

**Consultant, Idaho Consortium for Education.**

**Consultant, Idaho Multi-Media Foundation.**

***Academic activities:*** **(Book Reviews, Showings, Papers, Recitals, Editing, Proof-reading).**

**Speeches: Boise Ad Club, Idaho Trustees, July and November, Ag. Conference, November, District 1, School Superintendents' Meeting ITV, District 2, School Superintendents' Meeting ITV.**

**Adult Education Conference: Kootenai County High School (Commencement Address), Elk River High School (Commencement Address), National Conference of University and College Alumni Directors.**

Mr. MACDONALD. I have just a couple of questions. I know that you have been the subject of some controversy, and I don't know whether that would be helpful or not, certainly not as far as you are concerned, but merely as far as experience that this committee might have in the future, because until these hearings were scheduled, even though a very valued member from your State has mentioned the system out there, I didn't know very much about it.

I have never seen it in operation. The underlying question I think that I have is, according to your self-interest, self-serving description, is a user-based system and thereby of course, considered user supported, why does it need large funding from the Federal Government to keep it in operation?

Mr. LAW. Mr. Chairman, I have for some period of time proposed a number of criteria which would take it out of the Federal Government's funding restrictions and move it to the private-public sector.

One of the positions I have taken is that it would take less than one-thousandth of 1 percent of the Federal revenue-sharing money that goes to States over a period of time to implement a system that would provide the types of services with this type of technology to the 25 percent of this Nation who live in rural isolated areas.

When I talked to the Governors of our eight member States and talked about $100,000 out of a multimillion dollar Federal appropriation, Federal revenue-sharing money, and the 25 percent of the money which is discretionary in terms of how they—the Governors—use it, as long as it is within some broad categories, they agree that this would be a very, very expedient investment of that type of money, and at the same time, some of the Governors have indicated they would be willing to carry the legislation in their own States to supplement at whatever level needed to implement the technology at an operational level.

Mr. MACDONALD. Well, are you telling me if the Federal Government should cut you off, and I don't say they will or have even thought of it, because I know I have not, but if the Federal Government would cut you off from any funds, that then the State areas—what is it, a six-State area?

Mr. LAW. Six plus two, two that are not members of the federation but participate in the technology.

Mr. MACDONALD. And help support you. What are the States?

Mr. LAW. From the Canadian border they are Wyoming, Montana, Utah, Idaho, Colorado, New Mexico, Arizona, and Nevada.

Mr. MACDONALD. And how much does this break down per year?

Mr. LAW. The requested budget for fiscal year 1976 from NIE was $1.8 million.

Mr. MACDONALD. You are asking each State basically for a quarter of a million dollars.

What would they get in return for their money?

Mr. LAW. What we have produced this year so far is a series of programs designed to offset the need for career development education at the junior high school level, a series of inservice programs for teachers teaching the youngsters and for other teachers within the school districts and another series of what we called community based programs which answer the needs of rural isolated communities which seem to have the same problems. It does not matter whether they live in Colorado, Montana, or Arizona, EMT, emergency medical training program, where we recertified 800 paramedics in the region by using this satellite technology which delivers instructions to them in places where few physicians have been able to get.

Mr. MACDONALD. You teach the paramedics over the air is that right?

Mr. LAW. Yes, sir.

Mr. **Macdonald**. And there is supervision?

Mr. **Law**. Supervision by physicians. They donate their time. The physicians come to our studios and donate their time to teach the paramedics. We use the satellite signal to spread this throughout the Rocky Mountain region.

Mr. **Macdonald**. How many terminals?

Mr. **Law**. One uplink transmitter.

Mr. **Macdonald**. Where?

Mr. **Law**. In Denver, Colo.

Mr. **Macdonald**. In Denver. Do they take an examination?

Mr. **Law**. Yes, they have a 2-hour course taught by the physicians in the morning from 9:30 to 11:30 and take a half-hour break and have a 1-hour examination and repeat the same process in the afternoon.

Mr. **Macdonald**. You give them an examination every day?

Mr. **Law**. Every Saturday. These people volunteer their time to come in each Saturday to the Denver studio and 58 rural communities.

Mr. **Macdonald**. They go to school once a week and get examined once a week?

Mr. **Law**. Yes.

Mr. **Macdonald**. What do they do the other 6 days?

Mr. **Law**. They are usually the only medical care people in rural isolated communities, we don't have doctors, dentists, and veterinarians because they—patients and parademics—may be 200 or 300 miles from the closest hospital.

Mr. **Macdonald**. What is the most elaborate type of medical help they have ever given?

Mr. **Law**. Extraction from automobile wrecks. Because we live in a rural isolated area, auto accidents are our primary killer, and extraction from automobile accidents is a thing they learn most from.

Mr. **Macdonald**. They go through the operations?

Mr. **Law**. No, just to get them out alive and to get them to a medical care center or a physician.

Mr. **Macdonald**. This may sound far-fetched to you, but is this the same sort of thing they have in the TV program called "Emergency"?

Mr. **Law**. Yes. As a matter of fact "Emergency" is doing a half hour on our project at the moment utilizing the satellite technology.

Mr. **Macdonald**. What do you mean "utilizing it"?

Mr. **Law**. Their whole idea is that the very thing they do in Los Angeles is needed all throughout the State of California and where you run into the problem is in mountainous country, VHF, which is the communication link that they have for getting back and forth from accident to hospital is basically line-of-sight technology.

If they are out in the hinterland behind a mountain, there is no way of communication with a hospital or clinic, so they—emergency—decided one easy way was to use the VHF capability on the satellite. The satellite does do one thing, it makes the Earth flat, so that no matter where they are—the paramedics—the satellite is accessible, and they can see it electronically, so they can go up and down without any problem whatsoever.

Mr. **Macdonald**. I don't quite understand what you mean by going up and down.

Mr. **Law**. Well, VHF normally follows a straight line.

Mr. MACDONALD. I understand that. But when you say they can go up and down, you mean?

Mr. LAW. From point (A) up to the satellite and down to a hospital.

Mr. MACDONALD. You mean they can be seen any place up and down. When you say they go up and down, they don't go up and down?

Mr. LAW. The signal.

Mr. MACDONALD. Yes, the signal goes up and down. Have there been occasions where in an emergency they will give instructions, a doctor say located 50 or 100 miles away from an accident, can see the patient by cameras or something?

Mr. LAW. This has happened in Alaska. As a matter of fact, it happened before ATS–6 became totally operational. We do have two-way television medical diagnosis capability.

Mr. MACDONALD. Has it happened in Europe?

Mr. LAW. No, because we don't have two-way video capability nor have we tried to implement hospitalization or diagnosis by satellite. It is one of those funding level things that we get caught up in, so we did the best thing we know how, that is, upgrade the level of medicine practiced by paramedics in the region.

Mr. MACDONALD. And the accreditation that they get is strictly local accreditation?

Mr. LAW. No, it is State and AMA.

Mr. MACDONALD. The AMA will accredit them?

Mr. LAW. There are a series of texts they—the paramedicals—must master and take examinations on before they are permitted to provide a level of physician extended care or permitted to practice in the communities. They are required to be recertified each year.

Our concern was not so much recertification but expanding the breadth of knowledge they had. That has been tough to do over a period of years because the States have been unable to bring these people into medical centers.

Mr. MACDONALD. This is sort of like a better organized ski patrol?

Mr. LAW. Well, that is a good analogy.

One of the problems, the State of New Mexico has a State statute which requires every physician to upgrade his level of competence by taking the 30 semester refresher hours every 5 years, many physicians are so far remote from the teaching hospital in Albuquerque to make it impossible to comply. If the State carries through with the statute, it would have to remove the doctor's license because he does not meet that criteria, it is an attempt to upgrade the level of medicine that the profession is responsible for.

We have communities where a doctor is responsible for 4,000 square miles of territory.

In communities in New Mexico, for example, a nurse comes in every Thursday afternoon and, if you make it, you are in good shape and if you don't you sweat it out until the next Thursday afternoon. This satellite technology, used correctly would let people come to the center at any time. The center would be staffed with a paramedic who could interact with the hospital in Albuquerque, so that a doctor could advise the paramedic what treatment to initiate or what to do until a professional gets to the area.

It is a function of power and terrain.

In the State I am from, Idaho, the State police are out of touch with their base stations for hours sometimes because the transmission power of the car radio does not radiate far enough to be picked up on repeaters. The number to provide for an adequate system is too costly.

It is astronomical. We have had cases of missing a State policeman and when they found him he was dead beside his car. If he could have called in with information about who or what he was stopping they—the base station—would get a reading on his position and the license number of the automobile.

Mr. MACDONALD. This is also turning into education, you say?

Mr. LAW. Yes, sir.

Mr. MACDONALD. How does it work in education?

Mr. LAW. We used the ATS–6, basically one way video, then we added to that capability two old satellites.

Mr. MACDONALD. What is wrong with one-way video?

Mr. LAW. Well, it has its pluses.

Mr. MACDONALD. What is wrong with that?

Mr. LAW. It had its pluses and minuses. The spacecraft—ATS–6—was able to provide two-way video but we in the United States had trouble in frequency allocations and were not permitted two-way use. Two-way video was implemented in Alaska where remote medical diagnosis was done by TV and is done by radio every day.

Mr. MACDONALD. You keep talking about hospitals. I was thinking, when I first knew you were going to be a witness, I was thinking of teaching classrooms.

Mr. LAW. We do that every day or did do it every day through May 20. The way we supplement it and complement it, the one-way video, is by using ATS–1 and ATS–3 which are basically voice or narrow band satellites and we use them as communication links.

Mr. MACDONALD. And you have a teacher in the room?

Mr. LAW. Yes, and they can interact with other students from border to border or with teachers in Denver or with professionals who specialize in various careers.

Mr. MACDONALD. And take examinations?

Mr. LAW. Yes.

Mr. MACDONALD. Would the local school give them credits, give them a high school diploma?

Mr. LAW. We didn't get that far, but there is no reason why we can't.

Mr. MACDONALD. How far did you get?

Mr. LAW. Just to 7th, 8th, and 9th grade.

Mr. MACDONALD. Would they give them a junior high school diploma?

Mr. LAW. We gave written testimony which shows we have partially completed the research and evaluation of the project; the competence of the kids who had the two-way capability, against those at receive-only terminals, where they couldn't interact with other students or Denver, was measurably better than the passive mode. The participatory mode really sold the program and motivated the kids to learn.

Mr. MACDONALD. That is sort of a word of art, "participatory mode." What does it mean?

Mr. LAW. It means the youngster could pick up a microphone and if he disagreed with the teacher or specialist at the other end or if what a teacher or youngster at another site said, in real time he could do battle.

Mr. MACDONALD. You mean "argue back and forth"?

Mr. LAW. We prefer the word "discuss." The teachers are not given to permitting argumentation.

Mr. MACDONALD. The good ones are. That is the whole point of education, isn't it?

Do you have any questions, Mr. Bryon?

Mr. BYRON. The reflection that that same program is operating over the Appalachia area in vocational colleges based on the University of Kentucky program and unfortunately we don't have it today because the satellite was moved over to the subcontinent of India. That's Appalachia as well as the Rocky Mountains.

Mr. LAW. Sure. The majority of this program, Mr. Chairman, has been the fact that three regional entities, and the Federal agencies have had to agree on one program which had national benefits.

Mr. MACDONALD. I would think, culturally speaking, what would be beneficial to somebody in New Mexico is not going to be too much benefit, I wouldn't think, and I don't know much about Alaska, but I wouldn't think it would be of the same factual value to Alaska.

Mr. LAW. We find that the kids in Alaska are just as interested in knowing what the Navajos are doing in the Four Corner area; the Navajos in the Four Corner area want to know what the Aleuts are doing.

Mr. MACDONALD. How to identify a copperhead say versus——

Mr. LAW. A rattlesnake.

Mr. MACDONALD. I don't know what they have in Alaska outside of whales, seals I think, wouldn't seem to me to be the same thing.

Mr. LAW. We find out that kids have much more discerning and probing minds than we as adults or teachers give them credit for.

Mr. BYRON. Could I add a point?

The cost apparently is negligible when you look at the disc that can be put anywhere, even next to a mobile van in the middle of a field, 1 day a week to offer a program.

Mr. LAW. Among other things we did, Mr. Chairman, and the reason that I am supportive of the demonstration money, looking at the total technical picture, we involved 12 public television stations with terminals, we involved two cable systems and two translator systems all because we felt strongly from the beginning that if the technology was going to have any viability at all for the remote isolated areas of the country we had to prove that all of those other technologies could interface with a satellite and that really today you can provide communication satellite services to communities, which, if supplied by terrestrial systems in economic terms, would never be able to afford a community television or translator system. They are so far removed from the beaten path, a transmitter or translator wouldn't do them good because there are no off-air signals to be picked up in the first place. We have proven a satellite can provide these signals and services at little cost.

Mr. MACDONALD. Do you put entertainment on at all?

Mr. LAW. We think our format for our kids is somewhat entertainment.

Mr. MACDONALD. I mean like Sesame Street?

Mr. Law. No. Simply because of the number of hours we had available. We—FRMS—had 14 hours a week, the Appalachia Regional Commission had 9 hours a week.

Mr. Macdonald. We had a member of the subcommittee interested in Purdue University that used to have planes and that is based on the same system.

Mr. Law. Well, I prefer not to agree with that statement.

Mr. Macdonald. Well, it is not a statement. It is a question.

Mr. Law. Okay. Both of our systems are totally user based, however, we do not tell our constituents what they need or what to use or tell them, "Here it is, you have to use it," they tell us. MPATI imposed its will on the users. We did not.

Mr. Wirth. I don't know if you have seen the articles in the Rocky Mountain News in March by Peter Metzger, which were, to understate it, somewhat critical of satellite projects.

There were headlines to the effect that educational satellite project costs are an extravagant, vest, elaborate, charade, running amuck with public moneys, and have you had any kind of formal response to the allegations made by Mr. Metzger in the news?

Mr. Law. Congressman Wirth, I find myself in an untenable position because, as you know, I work for a politically viable organization, whose board of directors is made up of six Governors and I answer to those six Governors, and Governors are no different from Congressmen or Senators, and are somewhat loathe to take on a newspaper.

I have, for the funding agencies and Secretary Weinberger, answered the allegations in detail. I have been investigated and reinvestigated. The project has undergone three audits and I was personally audited by the HEW Regional Audit office and by NIE for 11 weeks. I can say, for my own salvation and, I think, credibility and whatever visibility I have left, I resigned my own position 2 weeks ago because I felt I was not getting a fair shake. The audits are in a rough draft form, and I am as clean as a whistle and so is the federation as clean as a whistle and if the chairman wishes to get another audit in, I would welcome it.

My problem is a forum to offset Mr. Metzger's own credibility.

Mr. Macdonald. Have you publicly been advised?

Mr. Law. I have been advised by counsel that until the audit becomes one of public knowledge, I should not respond. I felt I couldn't wait any longer and that is why I instigated the proceedings I did 2 weeks ago with my own company—FRMS. I don't know if those audits will ever be made public.

Mr. Macdonald. I think the basic issue is where you get the most return for the extra dollar spent. The question is whether a multimillion dollar expenditure on a satellite, with all of the software and transmission problems you have, are worth it.

You listened to the testimony in the earlier discussion talking about $7 billion a year over a 5-year period of time, you all can gobble that up at high speed. What we are trying to talk about here is how do you get more people to have access to various communications with software packages?

Mr. LAW. If I am to take the dollar figures that you heard about and which will be attested to tomorrow, that would bring—and I would quibble with the figures 80 percent, because I think it is closed to 65 percent and in our region, close to 50 percent of the school districts would be serviced by public television—and if I were to take the figures to be attested to tomorrow, $189 million to get that other 10 percent up from 80 to 90, with that $190 million I could fly you all of the satellites you would need for the next 20 years and provide all of the service to the havenots, the 50 million people living in remote, isolated communities, or more important those 10 percent which will never get anything, which is in effect being proposed. If you agree to 90 percent you don't do anything ever for the remaining 10 percent. That is the reason you are using existing cables and so on, it is more inexpensive to go that way.

I think if you take a look at the cable business and see where it has gone in the last 2 years, it is not only that the money is not there, for wiring the communities, but you also have to invest in a multimicrowave system, more money than the cost of putting the cable system in; it becomes economically impracticable because the operator cannot charge the $15 to $20 a month necessary to get a fair return on his investment.

I think the biggest hurdle we have to overcome in the Rocky Mountain area in terms of economic growth, where 60 or 70 percent of this country's natural resources are at the moment, is the dearth of communications—Mr. Bell, A.T. & T. I.TT. and G.T. & E. will never invest money for terrestrial communications which will let us develop our strip mines, waterways, forest products, and so forth.

At our last FRMS annual meeting we were talking about hauling coal out of Wyoming and the one railroad line projected $1 million a mile to put a rail spur in and that is a lot of money.

Mr. WIRTH. Just in summary, on behalf of the federation, they have a very very complicated political agency, as was pointed out in attempting to band together in mutual interests of that region, which are considerable, particularly in area of energy, great attempts there to develop a common agenda, great attempts, and I must say I am aware of the tremendous problems you have had attempting to put together that kind of coalition. I don't envy you at all in that task.

Thank you, Mr. Chairman.

Mr. MACDONALD. Thank you, sir.

I was about to say that anybody that says they don't care whether the Federal Government funds them or not can't be ripping the Federal Government off too much.

Mr. LAW. Having tried to get at this for 2 years and having served in the public sector for 25 years, I have learned by experience the Federal Government is not the way to survive.

Mr. MACDONALD. I think you won't get any arguments from this panel. Thank you very much.

The hearings are adjourned until tomorrow at 2 o'clock in this room.

[Whereupon, at 4:35 p.m., the subcommittee adjourned, to reconvene at 2 p.m., Wednesday, June 4, 1975]

# TELECOMMUNICATIONS FACILITIES AND DEMONSTRATION ACT OF 1975

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WEDNESDAY, JUNE 4, 1975

House of Representatives,
Subcommittee on Communications,
Committee on Interstate and Foreign Commerce,
*Washington, D.C.*

The subcommittee met at 2 p.m., pursuant to notice, in room 2322, Rayburn House Office Building, Hon. Torbert H. Macdonald, chairman, presiding.

Mr. Macdonald. The subcommittee will come to order.

We will have as our witness today, an unexpected pleasure, Congressman Brown of Ohio, a former member of our subcommittee and a very valued one.

## STATEMENT OF HON. CLARENCE J. BROWN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF OHIO

Mr. Brown. Mr. Chairman, distinguished members of the subcommittee, colleagues:

I am pleased to appear before you today and testify on a topic that occupied much of my time and interest during my tenure on your committee, namely, public broadcasting facilities. Specifically, I am here to support H.R. 4564, the DHEW "Telecommunications Facilities and Demonstration Act of 1975."

I am sure that the majority of you believe as I do that the program of Federal grant assistance for educational broadcasting facilities, which Congress first enacted in 1962, has made an important contribution to the enterprise of public broadcasting. However, after 12 years of Federal grants in this area it seems appropriate to assess: How far we have come in meeting the original goals of the program; how much the technical, institutional, and social environment in which the program operates has changed; and what existing and emerging needs can be met through a continuation or modification of this grant program.

You have already received considerable detailed testimony which should help you formulate precise answers to questions about the state of development in educational broadcasting, so I will confine myself to some brief general observations on that topic.

For discussion purposes, I think it is useful to divide the facilities supported by this program into two categories: Those used to produce program material—studio, remote pickup and editing equipment—and those facilities used to disseminate the program material to the intended audience—transmitters and interconnection systems like microwave. You may reach different conclusions about the state of development in each of these two categories and therefore the appropriate pattern for future Federal aid to these facilities.

It seems obvious to me that at some point we will reach the limit of economic practicality in terms of the original legislative goal of reaching all of the people of the United States with a single broadcast program channel in both television and radio. This is because both the local base of support for program generation will be inadequate to support a production facility, and because the population density will be so low that over-the-air broadcasting will not be a cost effective dissemination mechanism.

When that point is reached, some may question the usefulness of a Federal grant program for broadcasting facilities. I do not believe this will be the case. Some of the arguments which support my point of view are: first, the increasing availability of new alternative dissemination technologies like low-power broadcast repeaters, cable TV, light pipes, satellites, et cetera, which may make it more economically practical to reach all the people in the country with at least one basic service. Second, there is an emerging need for multichannel dissemination capability to support a wide range of educational services which cannot be cost effectively provided without some kind of technological multiplier like radio or television; and, third, there will be an increased demand for quality production capability created by new audiovisual-based education services.

I believe that H.R. 4564 defines some desirable new directions for a Federal support program in this area while not ignoring the very real problem of satisfactorily completing the task we started in 1962. It will put the Federal Government in the position of being able to adapt to both changing technology and developing applications based on changing needs.

In summary, the major issues, as I see them, presented by H.R. 4564 are as follows: The first issue is what resources will be required to bring the existing capital plant of public broadcasting up to standards and the corollary questions of what standards are appropriate? In spite of the complexity of this question, I find surprising agreement among the various estimates of overall cost—about $150 million in TV and $20 million in radio. The magnitude of this upgrading task does not seem to be a major issue. What does seem to be an issue is the appropriate Federal contribution to the undertaking. The administration believes that it is reasonable to expect a substantial local contribution to this upgrading effort, while public broadcasting feels that the majority of the support should come from Federal sources. While I won't attempt to resolve this dispute, I will offer two observations. First, you may want to consider adjusting the matching formula, currently 75 percent Federal—25 percent non-Federal, so that more applicants can be helped with a given amount of Federal funds. Perhaps even an incentive in terms of funding priority should be given applicants who propose a project with a larger proportion of local funds. Second, a more specific understanding needs to be reached concerning the time period over which this facilities improvement program will be accomplished.

The second issue is how should the problem of capital plant depreciation for public broadcasting be handled? I believe this is a serious and not well-explored issue. The existing capital plant of public broadcasting is already so large that its normal annual depreciation exceeds the current yearly level of DHEW grants. DHEW has suggested that Federal support in this area ought to be the responsibility of CPB and handled through its community grant program. I believe it will take some time to work out a suitable solution to this problem, but that both DHEW and CPB should be asked to jointly develop a plan and work for its implementation over the next 5 years.

The third issue is how close to the practical limit of coverage are we in both radio and TV? There appears to be greater disagreement between the administration and the industry on the television side than on the radio side. In any event, there is an agreement that more needs to be done in extending broadcast coverage. I believe that the limit question can be approached on a pragmatic basis through case by case decisions on individual station activation applications, and that it is not necessary to arbitrarily pursue an abstract percentage goal.

The fourth issue is what long-term role is most appropriate for the Federal Government with respect to the development of telecommunications facilities to support education and other public services? As new service concepts involving telecommunications emerge, I think it is clear that additional production and dissemination capacity will be needed. There is some question as to whether they should be publicly owned and financed. I do not believe it would be wise to try to federally fund and implement a program to build a vast array of public telecommunications facilities when the possibility of using privately financed system exists. I therefore believe that the type of program proposed by DHEW under the demonstration portion of H.R. 4564 provides the needed incentives and developmental activity to insure that the expanding needs of education for modern telecommunications will be met.

In conclusion, I support the main conceptual thrust of H.R. 4564 though I differ with its estimate of the appropriate level of Federal and DHEW funding to the total effort. I am particularly supportive of its demonstration provisions as I feel they open the way to address significant future needs before they become crises.

Let me say further in conclusion, Mr. Chairman, I think we need this particular piece of legislation and the demonstration grants involved in it, so that we can go ahead with development of the technology in this field and see that it is made applicable to public broadcasting and particularly applicable to the developing needs in education that public broadcasting serves.

As you know, I am a supporter of more television usage by the school systems and by the nonschool systems that serve to educate our public in the needs they have for the kind of programing that can help them in self-improvement and in the facilities area, we need exploration in that field.

I think we are likely to develop things there that probably will not be developed in commercial television for private markets, but if we can develop them in the public sector here through private interests, they then will have a transfer application into the private markets.

Mr. MACDONALD. We all thank you very much, Congressman Brown, for your statement, and I note you say you have been a long-time friend of public broadcasting, and I know that is absolutely accurate.

I just have two very small questions of you, Congressman, and one is: Yesterday we had testimony from two segments, one from the HEW people, a panel, and once again, Mr. Weinberger saw fit not to appear, but Mr. Morrill, Assistant Secretary for Planning and Evaluation, took his place.

I, for one, was so terribly amazed and very disappointed in the amount of money sought and their general attitude, at least publicly expressed, and what their private thoughts are I have no way of knowing, although I can't conceive that they wouldn't have different private thoughts than they expressed publicly. But I was disappointed in the amount of funds requested for facilities and the demonstration grants that you spoke so highly about.

We also had testimony on it from a gentleman who is rather controversial in Colorado, but who gave some interesting testimony concerning his operations.

The entire amount that they requested to do all of the things that they said they needed to do, new programs and so forth, as well as continuing with the facilities, amounted, believe it or not, to a total of $35 million over a period of 5 years.

Knowing of your interest, I was just wondering if you cared to comment.

Now, I am not pressing you for any comments. You can certainly save the comments that you might have for a later time on the floor, hopefully, or some other time. But, perfectly frankly, I think it is a very, very inadequate amount.

Mr. Brown. Mr. Chairman, I would tend to share that view were it not for the circumstances in which we find ourselves in the economy at the moment.

I think all of us would like to see some more funding in this area, so that these demonstration grants might be moved ahead somewhat more briskly.

It is my hope with that amount however, they can bring in some private funds to do some of the work on an experimental basis, and perhaps supplement some of those funds that might come in otherwise by entrepreneurs in the hopes of prospective gains for themselves.

Mr. Macdonald. If they had any such plans, they didn't identify them yesterday, I can assure you of that.

Mr. Brown. I shouldn't say private only, but perhaps even can supplement local community efforts in this regard.

We have one such effort being conducted in my area now that comes to mind. And, of course, I think in the Congress generally, we tend to encourage local demonstrations with the Federal funds and hope that the local community can pick up the Federal funds, part of it over a period of years or a period of time, and then we always get disappointed that the local community does not quite do it as rapidly or the extent that we hoped.

Maybe the local community is disappointed, too. But I guess that in summary one has to say that, and you mentioned their private opinions might be somewhat different than their testimony, and I would assume if they weren't under restraints from the Office of Management and Budget, because of the general condition of the Federal budget, they might come in and ask for more money also.

Mr. **Macdonald**. Do you think they might have testified a little differently at 2:45 today than they did yesterday, finding $5.3 billion, as I recall it, more money than was anticipated they would have yesterday?

Mr. **Brown**. Mr. Chairman, that $5.3 billion, a good part of that was not budgeted, and I guess that is the problem.

Mr. **Macdonald**. Well, we could go into it, and I apologize for getting into a matter that was extraneous, but you did bring it in.

I still think, and I think you would have enjoyed very much Dr. Law, even though he had been under some attack from some newspapers out in the Rocky Mountain area States, as I recall, for doing what I heard you discuss many times, and you indicated your great interest in coeducational, as well as other practical aspects, medicine, and all of the rest.

Mr. **Brown**. I guess it is too simple a statement for me to make, Mr. Chairman, and then to have to try to defend sometime, but I would almost support anything that develops rapidly the technology in this field so that it can reduce the economic costs of bringing education to more people.

Now, among the things you suggested are—and this has to be a function both of hardware and software, but among the things suggested, of course, are satellite storage of programing so that schools could call up through the night and have the program projected out that they could then show in their schools in room television sets and record on their own cassettes, and so forth.

We may be a long way from that, but if we don't undertake some of these demonstration programs to get there, it sems to me that the ultimate advantage of educational television will not be realized as early as we might otherwise realize it in the advantage of education to a lot of other people.

Mr. **Macdonald**. We are not going to realize it at a pace of $35 million in 5 years.

Mr. **Brown**. Mr. Chairman, that is, however, more than I made all last week, so it sounds like a lot of money.

Mr. **Macdonald**. You don't have to confess this to me. Are there any further questions?

Mr. **Frey**. There is one thing. I want to also add the thanks of this committee to the public broadcast people and their work over the years.

I had the pleasure of serving with this gentleman on the subcommittee and saw the leadership he provided and his help in writing a lot of the key legislation, and we are delighted with his interest and look forward to working with him on this area, because it sure needs some work.

Mr. **Macdonald**. And on the floor.

Mr. **Frey**. And on the floor.

Mr. **Brown**. Thank you, Mr. Frey and thank you, Mr. Chairman.

Mr. **Macdonald**. The next witnesses scheduled and, inasmuch as we are a little late, I was hopeful to obtain your thoughts concerning this, the witnesses to present their various points of view, most of whom I am familiar with, both as people and as to their points of view, with very good reason, and they are Mr. Henry Loomis, president of the Corporation for Public Broadcasting, and Mr. Hartford Gunn, president of Public Broadcasting Service, and Matthew Coffey, president of the Association of Public Radio Stations.

We have also a fourth witness, I do not know if he would fit into a panel or not: Mr. George Bair, member of the National Association of Educational Broadcasters board of directors of the University of North Carolina, the TV network, and I mean, this is not a mailed fist in a velvet glove, but I am serious about what you think of getting together in a joint presentation.

Mr. LOOMIS. It is fine with me.

Mr. MACDONALD. I know it is difficult to say no in an open room, but I am serious. We certainly welcome all of you, and for the edification of the stenographer, I wish you would identify yourselves, right to left.

Mr. COFFEY. Matthew Coffey.

Mr. BAIR. George Bair.

Mr. LOOMIS. Henry Loomis.

Mr. GUNN. Hartford Gunn.

Mr. MACDONALD. Proceed, whoever wants to go first.

## STATEMENTS OF A PANEL CONSISTING OF HENRY LOOMIS, PRESIDENT, CORPORATION FOR PUBLIC BROADCASTING; HARTFORD N. GUNN, JR., PRESIDENT, PUBLIC BROADCASTING SERVICE; AND MATTHEW B. COFFEY, PRESIDENT, ASSOCIATION OF PUBLIC RADIO STATIONS; ACCOMPANIED BY GEORGE E. BAIR, PH. D., MEMBER, NATIONAL ASSOCIATION OF EDUCATIONAL BROADCASTERS BOARD OF DIRECTORS, AND DIRECTOR, UNIVERSITY OF NORTH CAROLINA TELEVISION NETWORK

Mr. LOOMIS. Mr. Chairman, I know you have my prepared statement, and I thought perhaps I could start by reading the last page, the conclusion of my statement.

Mr. MACDONALD. Fine. I appreciate your reminding me that, without exception, the statements will be included in the record as if read, and you may interpolate in any way you see fit.

Mr. LOOMIS. I wanted to say that the Corporation supports many of the sections of H.R. 4564.

This is particularly true of the 5-year funding matching provisions, features which the Corporation endorses. It extends the educational broadcasting facilities program, whose authorization expires on June 30. It initiates a future-oriented demonstration program, which holds great promise for public broadcasting. It offers the predictability of 5-year authorizations for fiscal years 1976–80, which provide predictability of funding and opportunity for systems planning.

Nevertheless, as justified in the requirements sections of this statement, H.R. 4564 establishes funding levels which are insufficient for the achievement of the bill's purposes. As delineated, upgrading of public television stations alone—with the development of new stations—requires, at minimum standards, $135 million. And the improvement of existing public radio stations and the development of new ones require $40 million. The development of new television stations required to attain 90-percent coverage would raise the total requirement to $355 million.

At the $35 million level—$7 million per year—recommended by the administration, the facilities needs alone of public broadcasting would be largely unmet. It is for this reason that CPB urges the subcommittee to authorize at least $35 million per year for fiscal years 1976–80, for a total of $175 million, which is still well below public broadcasting's requirements.

The Task Force on the Long-Range Financing of Public Broadcasting stated, in its 1973 report, that Congress, in passing the Educational Television Facilities Act of 1962, "enacted a legislative milestone in the history of public broadcasting." CPB urges this subcommittee to approve another milestone, H.R. 4564, with adequate funding levels. Its passage is crucial if public broadcasting is to develop what the task force called "the rich potential for service [which] remains unfulfilled."

I may say, Mr. Chairman, having listened to you and Congressman Brown on the subject of amount, the thing that bothers me most about this act is the rhetoric touting all of the ambitious things that will be done, raising hopes and aspirations without supplying the resources necessary to follow through.

Either cut back what you plan to accomplish or appropriate the money needed to meet the objectives you endorse.

I would hope very much it would be the latter because I think the statement of purpose is excellent.

[Mr. Loomis' prepared statement follows:]

## STATEMENT OF HENRY LOOMIS, PRESIDENT, CORPORATION FOR PUBLIC BROADCASTING

### INTRODUCTION

The Corporation for Public Broadcasting (CPB) urges the passage of H.R. 4564, the Telecommunications Facilities and Demonstration Act of 1975, with adequate funding levels. The Corporation recognizes that the provisions of this act are to be administered by and budgeted to the Department of Health, Education, and Welfare (DHEW)—not the corporation. Nonetheless, the Corporation is vitally concerned about these provisions, because of its overall responsibility for developing the public broadcasting system of this nation and for supporting programming services which meet the needs and interests of the people of the U.S. with both aesthetic and technical excellence.

As such, the Corporation has a close relationship with DHEW—a relationship which has existed since the inception of CPB. For the Public Broadcasting Act of 1967, which authorized the establishment of CPB, amended the Educational Television Facilities Act of 1962 to include public radio and set the basis for continuing cooperation between the Corporation and DHEW.

The Public Broadcasting Act of 1967, with its expansion of the facilities act, reflects Congress's commitment to help establish a strong, effective, and independent public broadcasting system in the United States. H.R. 6461, the Public Broadcasting Financing Act of 1975, unanimously approved by this subcommittee and reported out of the full Committee on Interstate and Foreign Commerce in May, indicates renewed commitment to this goal. As a companion piece of legislation, H.R. 4564, the Telecommunications Facilities and Demonstration Act, offers further evidence of the congressional commitment, in that it provides for the continued development of the technical capacity which is essential to public broadcasting.

### FEATURES OF H.R. 4564

H.R. 4564 would extend the Educational Broadcasting Facilities Program for five years, fiscal 1976–1980, and give new authority to the Office of the Secretary of DHEW "for the support of demonstrations in telecommunications technologies for the distribution of health, education, and social service information, and for other purposes.

Similar to H.R. 17406, introduced in the 93rd Congress, the bill would expand DHEW's role in public broadcasting. It would not only extend an existing program—direct facilities support of public television and radio stations—but also would add a new dimension—indirect support of various telecommunications technologies, through demonstration grants and contracts. These support functions would be authorized for the indicated five-year period at $7 million per year, for a total amount of $35 million.

It is CPB's belief that the aims of the legislation cannot be achieved at the administration-supported funding levels. At least $35 million is required per year to meet the facilities and equipment needs of public broadcasting stations and to allow for demonstrations in modern telecommunications technologies, as indicated in the following descriptions of facilities and demonstration requirements.

### FACILITIES REQUIREMENTS

*Background—Facilities Development*

When Congress passed and the President signed the Educational Broadcasting Facilities Act in 1962, they not only set a precedent for federal involvement in public broadcasting but also laid the foundation for a national public broadcasting service. This action, with the inclusion of radio in the facilities program in 1967, was a tangible sign of the growing national awareness of the potential for public service through the electronic media and of the need to help public broadcasters develop this potential.

Passage of the facilities act and its subsequent amendment meant that public broadcasters were, for the first time, able to acquire technical facilities and equipment for the provision of adequate services to their communities. Prior to the inauguration of the facilities program, the growth of "educational broadcasting" was slow and difficult, largely because of the enormous costs of facilities and equipment and the scarcity of funds to pay these costs. Most public broadcasters operated in make-do quarters with hand-me-down equipment from commercial stations. It was their ingenuity, rather than the quality of their facilities and equipment, that made "educational broadcasting" viable in a number of individual locations.

*State of the System*

Since the creation of CPB in 1968, public broadcasting has grown to include 259 television and 170 radio stations, each of which is licensed by the Federal Communications Commission (FCC) and operates under FCC rules and regulations. These stations are directed by professional managers and support staff and operated by trained engineering personnel, who are united in the cause of public broadcasting.

These facilities reflect a federal investment of $100 million. However, many stations use outdated equipment, operate from short towers, and broadcast at low radiated power. It can be said, not even with tongue in cheek, that public broadcasting stations, in their use of old equipment, are major contributors to environmentalists' recycling efforts. However, the environmental aspect notwithstanding, recycled equipment wears out quickly, performs inefficiently, and generally provides lower quality transmission. This in turn affects the quality of the services which television viewers and radio listeners receive.

For public television, CPB has conducted an extensive study[1] to assess the minimum needs and costs to upgrade the facilities of public television stations in the United States and its territories. The results of this study show that more than $100 million is required merely to upgrade the facilities of existing public television stations in three categories: transmitter plants, color record and playback, and live color production cameras.

To single out one area of equipment—color videotape recorders—a substantial number of machines need to be purchased to bring public television stations up to minimum standards. Details on the number of machines required and their cost are included in the appended CPB study.

At the station level, color videotape recorders allow local stations to adapt resources provided by the Public Broadcasting Service (PBS) to the needs and interests of persons in their communities. The recorders permit them to rebroadcast live color programs aired by PBS, to record and delay national programs, to originate programs in their own studios, and to record community events outside their studios by the use of recorders in remote or mobile television vans.

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[1] A copy is appended.

By giving stations' flexibility in their use of national programs and capability for responsiveness in their coverage of local events, videotape recorders are crucial to public broadcasting's position as an unique and alternative program service in which local station independence is a paramount goal. Mandated by the Public Broadcasting Act of 1967 to provide diversity and excellence in its programs, public broadcasting requires the technical means to realize its potential.

In including just the three categories—transmitter plants, color record and playback, and live color production cameras, at $100 million—the CPB study omits mobile units, electronic journalism equipment, support facilities, studio-to-transmitter links, test equipment, and some studio modification. These additional items, again figured at minimum levels, would require another $35 million. Even then, there are additional capital costs for buildings, roads, lights, and similar items also not covered by the facilities act.

For public radio, CPB is now in the process of refining new survey data, according to established radio station specifications, so that realistic totals for facilities needs can be stated for this medium. However, a rough estimate—accepted by National Public Radio (NPR), Association of Public Radio Stations (APRS), DHEW, and CPB—is that $19 million would be required to bring existing stations up to the state-of-the-art.

For example, public radio has the unrealized potential to provide subsidiary communications authorization (SCA) service to the print-handicapped. SCA is the placing of two or more separate signals onto the single channel assigned to an FM station so that several audiences—including the print-handicapped—can be served simultaneously.

SCA is ideally suited to public radio, due to the medium's experience with public service broadcasting and its orientation to various target audiences. To date, SCA's potential has been demonstrated by "talking book" and other informational projects in approximately 30 areas of the country. But the service is provided by fewer than 10 percent of the public radio stations in the nation. The request for funds for radio could provide this capability at all interested stations.

Finally, it is worth noting that since the initial funding of the facilities program in 1963, Congress's intent in authorizing the legislation has far outstripped the actual funds appropriated.[2] Although a total of $180 million was authorized from fiscal years 1963 through 1975, only a total of slightly more than $106 million was actually appropriated, representing a shortfall of $74 million.

*Extent of Coverage*

According to the Public Broadcasting Act of 1967, public broadcast programming should "be responsive to the interests of people both in particular localities and throughout the United States * * *." It has the responsibility of providing full public broadcast services to all of the people, whatever their makeups, wherever their regions.

Nonetheless, recent estimates indicate that only 80 percent of the American people are within the grade A signal areas of public television stations and only 62 percent are within the grade A contour of public radio stations. These figures show that significant portions of the American people, "both in particular localities and throughout the United States," are not reached by public broadcasting.

For public television, CPB has calculated that upgrading the 80-percent coverage figure to 90 percent would require an additional 82 stations (for a total of 341 stations). These additional stations would cost approximately $180 million, funded through the facilities program, plus a substantial amount raised from outside sources.

It should be noted that the present 80-percent coverage figure is an idealistic one, because 61 percent of the public television stations operate in the UHF band. As stated by Richard Block of the Council for UHF Broadcasting, "Many people who tune into a UHF broadcast, or try to, continue to be frustrated by a poor signal due in large part to correctable technical deficiencies."

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[2] A table giving the authorization-appropriation history is appended.

These deficiencies include the mechanical and electronic inferiority of UHF, compared with VHF, tuners; the inadequacy of UHF outdoor antennas and lack of use and difficulty of adjustment of UHF indoor antennas; the drawbacks of unshielded UHF lead-in lines, which are easily affected by weather conditions, and of VHF/UHF splitters, which change impedance at antenna connection, causing signal loss; and the absence of consumer education to explain to viewers how to tune in UHF channels.

While the improvements required stretch from the home receiver to the rooftop antenna and lead-in, back to the station's transmitter, it is clear that H.R. 4564 can assist in the latter area. As part of the extensive study which CPB conducted earlier this year, it identified improvements which could be made in transmitter facilities which would greatly increase a station's coverage. These improvements were:

Antenna relocation.
Antenna height increase.
Transmitter power increase.
Various combinations of the above.

CPB's cost estimate for the upgrading required for transmitter facilities is approximately $29 million.

CPB, in conjunction with PBS and with commercial organizations, is striving to improve the technical status of the other elements of the UHF system, but there remains much to do in these areas. Until some of the technical deficiencies are overcome, UHF stations will continue to operate at considerable disadvantage to their VHF counterparts.

Thus, CPB believes that the upgrading of existing UHF facilities warrants a priority equal to the presently accorded conversion to color videotape recorder capability. Improved UHF transmission and reception will enhance the availability of public broadcasting's services to greater numbers of people. Color videotape recorder capability remains essential to providing local station autonomy in program scheduling.

For public radio, an even more substantial development effort is required than for public television. Based upon the 62-percent coverage figure, 125 stations in major markets would have to be added in order to increase public radio's coverage to 90 percent. At present, CPB is conducting an in-depth assessment of the needs of public radio and will present its analyses to Congress when they are complete. Until that time, CPB estimates that the development of public radio stations in areas presently unserved would require approximately $21 million.

CPB, NPR, and APRS expressed their concern to DHEW about the development of new public radio stations in public hearings held last October on DHEW regulations. In March of this year, they were pleased to see their concern recognized, when DHEW set as first priority "projects to establish, either through the activation of new stations or the acquisition, expansion, and improvement of existing stations, public radio stations meeting accepted industry-wide standards in presently unserved areas with populations of 500,000 or more." DHEW also gave priority to the creation of stations in presently unserved areas with populations of between 250,000 and 500,000 and in those with less than 250,000.

### DEMONSTRATION REQUIREMENTS

H.R. 4564 gives new authority to the Office of the Secretary of DHEW to institute demonstration programs in new and innovative areas, such as satellites, cable television, and video cassettes. The Corporation endorses this concept for a number of reasons.

First, although public television theoretically reaches 80 percent of the population of the United States, it broadcasts to the portion of the population which occupies less than 50 percent of the land mass of the country, with Alaska excluded. Hence, to reach 90 percent of the population would require a heavy investment, about equal to the cost of reaching the first 80 percent.

DHEW's research into improved distribution technology can, through a combination of satellites, cable television, optical communications, and other advanced forms of broadband distribution, open new avenues for reaching the remainder of the nation unserved after the 90 percent point is reached.

Second, unless some technological strides are made in the technology of broadcasting, there is no alternative to the continual replacement of equipment now in use. The technology of broadcasting has not kept pace with the tremendous technical advances of the last two decades—an important reason why impetus should be given to its development.

For the respective linkages of public television and radio stations, terrestrial interconnection is very costly, even at reduced rates. It provides an acceptable, but not exceptional, signal quality in television, but no stereo high fidelity capability for radio. It is a relatively inflexible way of linking independent stations with varying needs. The interconnection of new points is expensive, especially when they are in remote areas not already served by common carrier lines. Rates for the occasional service used for special-events coverage and program asembly are very high.

All of these factors, along with the potential of satellite technology, are causing public broadcasters to look skyward for the interconnection systems of tomorrow. CPB was an early sponsor of the ATS-6 satellite experiment that brought experimental programs in education and other social communications services to Appalachia and the Rockies, and is a founding member of the Public Service Satellite Consortium which is exploring new ways to make satellite technology serve communications needs in the health, education and social services disciplines.

Together with the Ford Foundation and PBS, and more recently, NPR, CPB is also engaged in extensive preliminary research into the costs and benefits of utilizing commercial satellite systems for interconnection. It is feasible that satellite service superior to terrestrial interconnection in flexibility, signal quality, reliability, and long-range costs can be available to public broadcasting within the next two to five years.

Third, as indicated in the Public Broadcasting Act and in the amended version of the Public Broadcasting Financing Act, instructional programming is a major focus of public broadcasting. Since television is a one-way medium and effective learning is the result of interaction between student and teacher, two-way capability is necessary. When the medium acquires this capability, it will increase the effectiveness of its educational and instructional programs. It is CPB's hope that the new authority which DHEW seeks will lead to such technical advances as two-way television, be it cable or other, to provide this capability.

However, due to CPB's concerns that the facilities requirements of public broadcasting be met and that the funding levels for these requirements be adequate, it has reservations about the allocation of funds between the facilities and demonstration programs. CPB, while in complete support of the demonstration concept in the bill, believes that assurances regarding the level of funding for the demonstration program should be made clear to the subcommittee and public broadcasting. CPB bases its support for the demonstration section upon a reasonable ratio which would take into account the extensive requirements of the facilities program.

### CONCLUSION

H.R. 4564, with its facilities and demonstration sections and its five-year funding and matching provisions, has features which the Corporation strongly endorses. It extends the Educational Broadcasting Facilities Program, whose authorization expires on June 30. It initiates a future-oriented demonstration program, which holds great promise for public broadcasting. It offers the predictability of five-year authorizations for fiscal years 1976–1980, which provide predictability of funding and opportunity for systems planning.

Nevertheless, as justified in the requirements sections of this statement, H.R. 4564 establishes funding levels which are insufficient for the achievement of the bill's purposes. As delineated, upgrading of public television stations alone—without the development of new stations—requires, at minimum standards, $135 million. And the improvement of existing public radio stations and the development of new ones require $40 million. The development of new television stations required to attain 90 percent coverage would raise the total requirement to $355 million.

At the $35-million level—$7 million per year—recommended by the administration, the facilities needs alone of public broadcasting would be largely unmet. It is for this reason that CPB urges the subcommittee to authorize at least $35 million per year for fiscal years 1976–1980, for a total of $175 million, which is still well below public broadcasting's requirements.

The Task Force on the Long-Range Financing of Public Broadcasting stated, in its 1973 report, that Congress, in passing the Educational Television Facilities Act of 1962, "enacted a legislative milestone in the history of public broadcasting." CPB urges this subcommittee to approve another milestone, H.R. 4564, with adequate funding levels. Its passage is crucial if public broadcasting is to develop what the task force called "the rich potential for service [which] remains unfulfilled."

APPENDIX.—EDUCATIONAL TELEVISION FACILITIES ACT APPROPRIATIONS, 1963-75

| Fiscal year | Authorization | Appropriation |
|---|---|---|
| 1963-67 | [1] $32,000,000 | $32,000,000 |
| 1968 | 10,500,000 | .......... |
| 1969 | 12,500,000 | 4,375,000 |
| 1970 | 15,000,000 | 5,083,000 |
| 1971 | 15,000,000 | 11,000,000 |
| 1972 | 15,000,000 | 13,000,000 |
| 1973 | 25,000,000 | 13,000,000 |
| 1974 | 25,000,000 | 15,675,000 |
| 1975 | 30,000,000 | 12,000,000 |
| Total | 180,000,000 | 106,133,000 |

[1] Aggregate.

Mr. MACDONALD. I could not agree with you more.

I have tried to make that point. I think I did make the point ad nauseum yesterday. I got sick of saying it myself, but it didn't seem to register, so I had to keep saying it.

You know, I told you people once, "promises, promises, promises," but to hold out this disillusioning Utopia of how all of these things are going to happen, and then have a pittance of money to do it with is a hoax, and to us, a cliché, a cruel hoax, because I went through with them yesterday, and I am not going to go through ancient history because this goes to exactly the point. And in my notes, which have been so adequately cared for that I now can't find them, it turns out that the amount of applicants, to the best of my recollection, was with 25 days to go, they had not given any filing, I mean they had not been completed, and there had been no money given to them, and that many, many, many of them were going to the well and going to come back under their own figures with empty buckets, not even a bucket with a hole in it. I mean no bucket.

Mr. LOOMIS. Well, I think you will also find the history had been so discouraging that many who ought to be considering going to the well, who ought to be considering increasing their physical plants have given up even trying because it seemed that it was so hopeless.

I think one of the things that bothers us very much is the fact that while in theory public television covers 80 percent with their grade A coverage, in fact it is something closer to 60 percent. That is because the existing stations have second-class facilities.

Mr. MACDONALD. Right.

Mr. LOOMIS. Facilities are either too low power or not located properly. That is the scandal and nothing but money can remedy that. It does not require FCC clearance or anything like it; it is just a matter of doing it.

You have the licenses, you have an audience, you have a board of directors, you have the whole thing, but it takes a sizable amount of money to get that 20-percent increase from 60- to 80-percent coverage.

Mr. MACDONALD. How much do you figure in hard dollars, not optimum, but hard dollars, that you could reasonably expect to get to fix this?

Mr. LOOMIS. Well, we figure that for public television just the transmitters themselves will cost on the order of $30 million. That isn't counting needed VTR's or telecameras; not counting studios, et cetera. That is just the cost of transmitters and antennas needed to extend the listenership to all of those who should be able to see and hear in theory, but do not in practice; is on the order of $30 million. I am now talking only of existing stations, not talking about requirements of additional stations.

Mr. MACDONALD. That, of course, $30 million would be in one area?

Mr. LOOMIS. Yes, that is in just the basic transmittal equipment.

Mr. MACDONALD. I have a memo, I ought to take care of my own things, I get called out for a vote and I am sloppy, but I know what I do with my own things, I had a memo of October 10, 1973, from Caspar Weinberger, what its circulation was I don't know, which said—and this is Caspar Weinberger talking—Secretary of HEW, "I don't want regulations to give first priority to new stations. We have new stations. I want first the priority to be on more equipment for existing stations."

Now I am not trying to, you know, cause any international problem, because there is nothing international about this. We are both doing the public's business. This should be external.

What do you think?

I won't go into the mentality that would put out something like that. I thought we had gotten rid of that California-type thinking quite a while ago, hopefully, and I don't have any apologies to Mr. Weinberger about that on second or third thought because I mean it. He was just flying in the face of what it said in the Communication Act, and what he thinks does not really have too much to do with it when he is faced with an act of Congress.

Obviously, new stations are a priority, and who is any Secretary—I am not going to pick on him, I don't know him—but who is any Secretary, Elliot Richardson, whom I do know, or another Secretary that I knew, Abe Ribicoff, but who are they to say, "Never mind what the Congress or the law says, I don't want it."?

Now, do you have any interplay between the agencies so you could stop that and say: "Well, I am sorry, Mr. Secretary, I don't care what you think. I don't think, and my position is just as important as yours, I, too, am a Presidential appointee"?

Mr. LOOMIS. Of course, I am not a Presidential appointee. I am a private citizen reporting to the Board of the Corporation.

Mr. MACDONALD. That is right, sure, but you were nominated by the president.

Mr. LOOMIS. Well, I don't have that shield. My job is to provide the shield to others, I guess. But this is a difficult issue because we have discussed this with HEW, and we do have a variety of different priorities.

In the case of radio, I think the priority is clear because there are huge areas— a third of the top markets in this country have no public radio stations. The top priority is getting into these markets while frequencies are available.

In the case of television, our action, as you are well aware, requires diversity and independence for the licensees. In order to be diverse and to have independence, you have to have equipment such as color tape recorders and those are very expensive.

We were shocked to find there would be some 27 million if I remember right required to equip existing stations with the minimum tape recorders required to permit them to record the PBS programs rather than playing it immediately as it came down the line, to record it for use at some later time if they wished to use it.

So there we were caught in a dilemma, one requirement of one law was to reach all of the population, and one requirement of the other law, our law was to encourage diversity and independence to the licensee.

Both require capital. So we discussed it with HEW and said, and this was a couple of years ago, that at that time we thought greater priority should be given to enhancing the capability of existing stations to have diversity and independence. This was with respect to television, all of the latter pertains to television.

We now feel there have been good additions to VTR's.

Mr. MACDONALD. What are VTR's?

Mr. LOOMIS. Video tape recorders, and these are things that cost on the order of $80,000 or $100,000.

Mr. MACDONALD. Why are these necessary? I heard the emphasis, and I am pleading ignorance, not my case, but I just don't understand why they are so important.

Mr. LOOMIS. Let us say the PBS feature at 7 o'clock in the evening is programed A, which you are very anxious to have, but unfortunately, at 7 o'clock you are already committed to cover the local city council.

If you don't have a tape recorder with which you can tape program A, if you have to cover the city council, you cover it and then you cannot get A because by 8 o'clock when you are ready, program B is on the line.

If you had the tape recorder, you could choose whether you want program A or B, or you could tape program A and keep it for broadcast the following Saturday.

Without the tape recorder, you can't do this. It is a vital part of the independence and freedom of choice of the individual licensee, and it requires an expensive piece of equipment, which is the basis of the discussion.

That is why we felt at that time that insufficient priority had been given to it. It does not show up in statistical breakdowns of coverage. It does not show up in dots on the map.

Mr. FREY. May I ask this. Is there any way you can do it areawide? For instance, one station recording in one area, and then using it?

Mr. LOOMIS. I think in theory, you could. I think the communications problem between stations A and B and C would be complex because it would not be a constant pattern. The whole point is on Tuesdays, you have a different desire than on Wednesday, and I think the problem of coordinating the stations would be the difficulty.

Mr. MACDONALD. On the same points, in the old days, as I recall it, in the entertainment field, motion picture people used to call that bicycling, and that seemed to work pretty well. There were law suits about who was bicycling and under what circumstances.

Mr. GUNN. We do some of that, PBS does some of that right now, that is terribly expensive, again, when you get color tape, and the amount of just the physical cost of the tape and duplication of it, is very expensive as compared to being able to record it, use it and then wipe the tape and use the same tape again.

The bicycling, the mathematics of it is not as favorable as one would think.

Mr. **Bair.** You still would have to have a machine to play it back when you wanted to use it.

Mr. **Gunn.** Many of your problems are timely in nature and there wouldn't be the time to get it to the next town. Nobody wants "Washington Week in Review" the following week. They understandably want it in the week it happened.

Mr. **Wirth.** I am curious. Bicycling means sending it out how?

Mr. **Gunn.** By mail.

Mr. **Wirth.** City of Denver?

Mr. **Gunn.** Denver would use it on Monday and we would put it in the mail, and it would go somewhere on Tuesday, and so forth, down the line.

Mr. **Wirth.** Why isn't it possible for you in a situation like that to make lots of copies on tape? Once you buy the tape, can't you make them send them out?

Mr. **Gunn.** You would miss the time frame. If the timing is that important, it might arrive 3 days later. This is the kind of things PBS has done a lot of work on. And, as I said, the tape itself is so expensive.

Mr. **Wirth.** Once you get the tape, it can be used over and over again?

Mr. **Gunn.** You can only use it so long; it is used up after so long on bicycling.

Mr. **Wirth.** I was thinking of developing the kind of program where you can mail it to Denver, then Colorado Springs, and probably on to Grand Junction, assuming we got appropriations from the administration to make sure we are able to put broadcasting facilities there, why couldn't you mail it out to all of those stations, and then have the kind of trade arrangements going back and forth via mail, so they wouldn't have to buy that?

Mr. **Gunn.** You could. In fact, it was the original system we had, but it was so inefficient and so costly and it rendered special events and timely programs unusuable for the people on the far end of the bicycle.

Mr. **Frey.** Will you yield on the point you are talking about?

Mr. **Gunn.** And you still have to play it back, even when you bicycle the tape.

Mr. **Frey.** If they have to be so timely and so urgent to get them on, I don't think I would cover the city council. If it is such a tremendous thing that it is a "now" thing, and it couldn't wait a day or so, I would let the city council go and maybe do that. The city council would be back, I guarantee, and you would get a rerun of that whether you want it or not.

Mr. **Wirth.** It is like the veto.

Mr. **Bair.** You don't save all of the money. You have to have a video tape machine to play even with bicycle tapes, and therefore all you are saving is the difference between the one that can play only and the one that can record.

Mr. **Wirth.** A color machine costs $100,000.

Mr. **Bair.** With playback and record capacity.

Mr. **Wirth.** What does black and white cost?

Mr. GUNN. It does not matter what it costs; it does not count any more in modern television.

Mr. MACDONALD. What? What doesn't matter?

Mr. GUNN. Black and white television.

Mr. LOOMIS. In black and white television you lose your audience rapidly.

Mr. MACDONALD. It came out a little differently there.

Mr. BAIR. Yes, black and white does not count.

Mr. MACDONALD. In other words, black and white does not count. How do you explain the tremendous audience, and maybe this is just in my generation. I don't know, but the audience that was engendered by World War II, that movie, the English actor, I think it was a high ranking officer, the invasion, the rise of Hitler and invasion of Europe?

Mr. GUNN. "The World At War."

Mr. MACDONALD. That is all in black and white.

Mr. GUNN. Content has something to do with it, I admit.

Mr. MACDONALD. Yes, I would just as soon see a good black and white as a poor color one.

Mr. GUNN. I think one of the unique things we do is to program information for children. It is hard today to bring a youngster into a program in black and white when he can watch cartoons in color.

Mr. MACDONALD. That is pretty well documented. Who wants to get back to the bill before you?

## STATEMENT OF HARTFORD N. GUNN, JR.

Mr. GUNN. I just have a two-page summary of what I said in my written statement and as I understand it, the basic statements are going in the record with appendices, including the engineering statements.

The objective of the public television system is to give a quality program service to all of the American people and make that service responsive to the particular needs of each community served.

The 5-year facilities program we recommend today will, in our judgment, meet that objective. With local support up front, this program will provide the delivery capabilities public television must have to fill the mandates laid down in the 1967 act, and there are several key elements, as we see it, to undertaking the completion of this facilities program.

The first element of the program is to reach in fact with a dependable signal the 80 percent of the population that our 254 existing stations reach in theory. This gap, as we mentioned a moment ago, between fact and theory, results from the inadequacies of the application of UHF technology.

That situation is especially critical to public television and also critical to commercial television, but especially to us because 61 percent of our stations are in the UHF band, so there are some 30 million people that theoretically are within reach of our present transmitters and our present stations and their staffs and their programing, but in fact are not reachable because of the weak or poor signal of those stations. We think to bring that up to date would cost something on the order of $31 million.

The second element in the program, as we see it, is to create a system in which there are genuine local service options so that each station can use national resources according to its own priorities and it can also produce programs to meet the special needs of that community. This is the part where we think our best estimate is something on the order of $100 to $105 million for color cameras, video tape recorders, projectors, and so forth.

The third element of the program is establishment of new stations wherever there is a population to support them to reach an additional 10 percent of the population. Let us assume we have now spent the necessary money to make our present stations effective, we will have covered about 80 percent of the public. To reach the next 10 percent of the American population, that is about half of those remaining that we do not serve, will require some 82 new stations at a cost of about $80 million.

Thirty-four communities have already raised the necessary non-Federal matching funds, and the point you were making is that there are a lot of people, on the promise of Federal money, that have gone to work, and they raised local money and are ready to go.

Thirty-four of the 82 new stations that are needed are standing by waiting for funding. There are another 48 communities which represent potential service areas, and the cost of that would be an additional $112 million over the $68 million necessary to put in the 34 communities. This still leaves 10 percent of the population unserved by public television from over-the-air facilities.

It is our view that these people should be served and that this requires a long-term creative approach and creative research. To develop the new technology to serve that group, it may very well be our present high-powered transmitting stations such as we have covering the other population areas are not going to be effective in covering the last 10 percent of those areas in this country, and that is 10 percent of the population which does not now have access to the programs of public broadcasting.

We, however, strongly disagree that it is now the moment to shift the focus of the Facilities Act away from public broadcasting facilities per se.

The immediate needs are great and the immediate benefits can be achieved by application of available or near-term technology.

The future communications research should be considered on its own merits separate and apart from a facilities program.

In other words, I am a great believer in demonstration projects, but I think to mix it in with this program, it is going to be deceptive or it may not be effective in getting the quality demonstration projects you need. I am sure it will make the program to reach the majority of the population ineffective or less effective to the extent that we put the two items in competition with one another in the same bill.

[Mr. Gunn's prepared statement, with attachments, follows:]

## STATEMENT OF HARTFORD N. GUNN, JR., PRESIDENT, PUBLIC BROADCASTING SERVICE

The legislation before this Subcommittee would continue the Federal matching grant program that, since 1962, has enabled great progress to be made in expanding the reach and flexibility of the public broadcasting system. We would like today to outline for you the costs and planning that will be involved in carrying this program forward to fulfillment.

## I. PURPOSE OF THE FACILITIES ACT

The stated purpose of the Facilities Act is to "assist (through matching grants) the construction of noncommercial educational television or radio broadcasting facilities." This broad purpose was somewhat sharpened by the Public Broadcasting Act of 1967, which provides:

> that it is necessary and appropriate for the Federal Government to complement, assist, and support a national policy that will most effectively make noncommercial educational radio and television service available to all the citizens of the United States (emphasis added).

The Facilities Act is an essential complement to the Public Broadcasting Act. Together, they provide the framework and some of the means for the development of a public broadcasting system that is accessible and responsive to all the American people.

As Congress moves toward the concept of long-range Federal funding for the Corporation for Public Broadcasting and, through it, for the individual stations in the system, it is particularly appropriate to establish a companion long-range facilities program to upgrade the technical capabilities of public television and radio. Without such technical capabilities, the stations would be unable to achieve the potential that general long-range assistance will otherwise afford. Thus, we strongly support five-year funding for facilities, at substantial levels that reflect real needs. This statement will be limited, of course, to the needs and recommended funding levels of public television only.

## II. PRIORITIES AND FUNDING LEVELS

To determine the appropriate level for authorizations and appropriations under the Facilities Act, it is necessary first to define the objectives—and to rank them in some order of priority—that must be accomplished if public television is to serve the American people as envisioned by the Public Broadcasting Act of 1967. We suggest three primary objectives, all of them directly related to the purpose of the Facilities Act: (1) to make a public television signal available to all Americans; (2) to give each station true options as to how best it can serve the needs of its community; and (3) to enable each station to take full advantage of these options by strengthening its production capabilities.

These objectives can best be reached in two stages. The first is the development and improvement of existing stations to maximize the efficiency, flexibility, and responsiveness of their service to the people within their theoretical viewing area. The second stage is to make it possible for communities not now served by public television to have access to such service, if they want to have it.

The methods by which each station, with its particular local needs, will choose to meet these objectives will, of course, vary. This statement sets out patterns for meeting these objectives which are not intended to constrain the stations in their applications, but rather to provide D/HEW with a framework from which to respond flexibly to a myriad of specialized needs.

### A. *Increasing the efficiency, flexibility, and responsiveness of existing station services.*

1. *Improvements in UHF Technology.*—A major priority objective that can be advanced by the Facilities Act is the availability of a public television signal to every household in a station's service area. In estimates based on theoretical projections of signal coverage and the 1970 census, public television signals currently reach over 80 percent of the population, or about 162 million people. In fact, however, we estimate that of that number at least 13 million television homes (or about 30 million people) are not effectively served, due largely to the current inferiority of applied UHF technology—and about 61 percent of our member stations are UHF. Thus, we estimate that an acceptable public television signal reaches only approximately 65 percent of the population, or about 132 million Americans.

Although the technology exists for better UHF transmission and reception, this technology has not yet been applied. As a result, while millions of dollars are invested by the public in home receivers and by television stations in transmitters, UHF signals are not reaching large segments of both inner cities and rural areas theoretically served by public television.

PBS is now working with other broadcasting entities to advance the development of improved UHF transmitters. Once this development phrase is completed, which should be by the end of 1977, most existing public television stations will have to upgrade their facilities. The total cost of this upgrading, adjusted for inflation, is expected to be $31 million—or about one dollar for each of the 30 million people to whom effective coverage will thus be extended. This will bring our total coverage *in fact* up to the 80 percent of the population now served *in theory*. (Details of costs are contained in the Appendix to this statement.)

Other crucial aspects of UHF improvement, in home antennas and receivers for example, are not directly related to the Facilities Act. But PBS is making a major effort in these areas as well, through regulatory and other processes, to give viewers the UHF service they have every right to expect.

2. *Local Option (Videotape Recorders)*.—Another aspect of increasing the efficiency, flexibility, and responsiveness of public television service which can be furthered by the Facilities Act is to ensure that every station in our developing system has real local options as to how best to put the resources offered by the national system to local use. The concept of a public television system based on local autonomy and strength, as developed through the Carnegie Commission and enacted by the Congress in 1967, has been a paramount concern to all proponents of public broadcasting—both in government and out—and has been a major factor in many of the structural adjustments the system has undergone. Indeed, it is in large part this local character which has earned public broadcasting recognition as a unique and essential service.

The concept of effective local options is fostered when a licensee has high-quality programming available from diverse sources so that each station, having ascertained the particular needs of its community, can program accordingly. The concept is not complete, however, unless a station is able to choose not only which programs to broadcast but also the times to broadcast them.

In order to have true local options, stations must have the capacity to record the programs they reecive on the national interconnection for airing according to local rather than national scheduling requirements, while maintaining such other normal station activities as at least minimum local production origination.

For this kind of flexibility, a station requires at least four color videotape recorders and two color film islands (film projection systems). That means that the system at its present size requires an additional 263 videotape recorders, which will cost $28.4 million for purchase, installation, and spare parts. The system also requires 114 film islands which will cost $10.2 million for purchase, installation and spare parts. (For detailed cost breakdowns, see *The PBS Facilities Guidelines Report* in the Appendix.)

The purpose of establishing local option as a major objective of the facilities program is to ensure that the system is in fact marked by diversity, responsive to the needs of local communities, and not a single, centralized entity capable only of serving majority wishes.

3. *Increased Capacity for Community Programming (Production Equipment)*.—As we work toward improving the quality and extending the effective range of our signals, and increasing a station's capacity for local scheduling options, we cannot lose sight of the ultimate objective of the Public Broadcasting Act—which is, of course, to provide diverse and responsive programming to the people served by public television. This ultimate objective involves the local stations' capacity to product programs on a regular basis, both programs of strictly local interest and programs suitable for regional or national distribution.

While national programming naturally has the highest visibility in any overview of public television, the crucial element of each station's program service is the development of the capability to produce local programs to meet the special needs of the diverse members of its community. In many communities, indeed, a public television station provides the *only* local television service available in that community. In others, the only *substantial* local program services comes from the public television station.

With the assistance of the Facilities Program since 1962, most public television stations now have at least minimal capability to produce local programs in color. But licensees in 40 communities are still without color origination capability of any kind. In order to produce its own programs, a station needs a minimum of three color cameras. To achieve this minimum level of service, the system requires 132 additional cameras, at a total cost of $14.1 million including spare parts and installation. (For cost breakdown, see Appendix.)

In order to provide the most meaningful local programming, it is necessary that each public television station be able to extend itself out into the community, beyond the bounds of the studio, and to portray community events and reactions as they occur. Without this capacity, a station is unable to provide its viewers with instant coverage of fast-moving community affairs. Being confined to studio production tends to create an "ivory tower" ambience; the artificiality and relative inacessibility of the studio setting makes it very difficult, if not impossible to involve community groups—and minority groups in particular—in local programming.

Recent technical advances have dramatically increased the flexibility of broadcast television cameras, and decreased their cost. For the first time it is practical to provide even the smallest statiton with the capability to originate in color, and to do so from the community itself. Production need not be confined to the studio, nor is bulky, expensive equipment necessary to achieve broadcast technical quality.

A handful of stations have equipped themselves with this new lightweight equipment; the response from their viewers to the resulting community programming has been enthusiastic. If all stations that now fall short of the facilities guidelines of the PBS Engineering Committee were to be equipped with compact, flexible origination facilities, public television's service to local audiences would improve dramatically. The cost to the system would be approximately $24.8 million. (Again, cost breakdowns are included in the Appendix.)

The twenty or so stations in the system who produce programs for the national or for regional systems, have greater minimum needs to sustain simultaneously their local and non-local production efforts. In order to assure their capability for this dual effort, these stations require an additional twenty-six color cameras, at a cost of $2.2 million; twenty-one videotape recorders at $2.27 million; nine color film islands at $.8 million; and 16 videotape cartridge machines at $4 million.

Finally, in order for stations to make use of this production equipment, they will have to acquire considerable support facilities, such as monitors, studio switching and signal distribution systems. The systemwide cost for these support facilities is $18 million.

The total cost of all these factors, which in combination assure at least a minimum capability for community programming at all existing stations, is $66.2 million.

B. *Initiating full service for people outside even the theoretical reach of existing public television stations.*

1. *Initiating New Service.*—If it is possible to accomplish in major degree the initial objective of bringing those people theoretically within reach of public television stations the full range of service which public television can and should provide, the next step would be obvious: namely, to attempt to bring full public television services to communities which do not currently receive any public television signal at all. Our analyses show that by expanding into some 82 communities and areas of 180,000 or more people, public television could increase its coverage to roughly 90 percent of the American population, or an additional 23 million people. This would mean a grand total of 185 million Americans served by public television.

Of these 82 communities and areas, some 34 have already determined that they need and want a public television outlet, for funding under the five-year program being considered. Of these planned stations, 12 are originating stations and 22 are repeaters. The costs of these stations, fully equipped, will be $67.9 million. Community support for these new stations has already been proven because for every Federal dollar requested, non-Federal funds have already been raised.

To achieve the goal of 90 percent coverage, public television stations will have to be established in an additional 48 communities and areas of 180,000 or more people. To reach the 90 percent goals, 17 of these will be originating stations and 31 will be repeaters. The costs of setting up these yet unplanned stations will be $112.4 million. The total cost of serving these additional 23 million people, which must be anticipated in the five-year continuation, will be $180.3 million.

In considering expansion of the existing system, we take as our guiding principle that public television should be available to everyone in the United States who wants it. Once members of a community determine that the general community population is genuinely interested in bringing in public television, the benefits of the facilities program should be available to that community.

However, because the number of people who would be reached by new stations is substantially smaller than the number to be reached by upgrading existing stations, because creating new stations is substantially more expensive than upgrading existing ones, and because of the imbedded investment in staff and facilities at existing stations, we would accord the higher priority to making existing signals more available to more people—according to the steps outlined above.

2. *Creative Research.*—Even with the creation of these new stations, there will remain roughly 10 percent of the population who—because of population patterns—simply cannot be served cost effectively by traditional over-the-air facilities. These people should be served if they wish to be served, and it is our collective obligation to conduct the creative research necessary to determine how best this can be done. Public broadcasting is currently researching new technologies for serving sparsely-populated areas. Similar research is going forward by others in the communications field.

Serving these scattered populations is an obligation that cannot be ignored. In terms of cost-effective, achievable objectives for the next five years, however, we must recommend that this aspect of the overall program be accorded a less urgent priority.

### III. DEMONSTRATION PROJECTS

The last section of H.R. 4564 provides an authorization for the Secretary of Health, Education, and Welfare to dedicate an unspecified portion of the facilities funds for the development of new technologies. Clearly, public television has an obligation to determine how it can reach all Americans with greatest effectiveness. Insofar as that obligation relates to the rural populations that comprise the unserved 10 percent, people that should one day be served, new technologies may be the crucial link. But these same new technologies, in all likelihood, will be important for services other than public television. To cite but one example, they may increase the effectiveness of the delivery of health services to remote and dispersed populations.

Thus, we wholeheartedly support a federally-financed program for communications demonstration projects. At the same time, and particularly in the first phase of long-range funding, we believe that the Facilities Act should remain exclusively a facilities act—that is, a companion to the Public Broadcasting Act which provides an incentive through matching grants for the purchase of the facilities needed to fulfill the objectives of a nationwide public broadcasting system. We do not believe that the Facilities Act should now shift its focus to R&D for general communications resources, as advocated by D/HEW. The first-priority objective of developing adequate public broadcasting facilities to serve the substantial majority of Americans is by no means complete. Thus we recommend that the demonstrations section be deleted from this Act.

This is not to say that it is inappropriate for D/HEW, or any other agency of the Federal Government, to fund research and demonstration projects in the communications area. Quite the contrary, we support such efforts. And we believe that it is a continuing responsibility of public broadcasting as well. We have made and are making significant progress in several developmental areas, such as captioning for the deaf, improved television sound, and satellite distribution. However, in view of public broadcasting's unmet needs—and thus also its unfulfilled service objectives—we believe that the Facilities Act should continue to be focused on the particular responsibilities and service capabilities of public broadcasting.

Furthermore, there is a question about the wisdom of now shifting the priorities of the Facilities Act to areas that promise little short- or medium-range benefit to the greater number of currently unserved people. Our objective is to serve as effectively as possible and as quickly as possible as much of the population as possible with facilities requiring no extensive R&D that can be put to effective and immediate use. We believe the priorities we have recommended will bring us closer to these objectives. In sum, notwithstanding the long term benefits and the clear appropriateness of exploring new communications technologies to ensure wider and more effective public service in the future, we believe it is inappropriate to tie into public broadcasting legislation this section on research, development, and demonstration projects. These should stand on their own and be separately and adequately funded.

## IV. CONCLUSIONS

The total projected cost to meet our facilities objectives is $316.1 million—with 75 percent, or $237 million, to be funded through the Facilities Act over the next five years. Presently there are one-hundred and four television facilities applications on hand at D/HEW, amounting to $54 million in total project costs. (A complete list of these applicants is attached.[1]) These projects reflect strong local commitments for both present and future support funds.

We estimate that approximately $10 million of remaining FY 75 facilities funds will be expended in response to an unspecified number of these currently pending proposals. This means that our projected needs for $237 million may be reduced by $10 million.

Obviously, to meet simultaneously all the objectives we have set forth would require not only funds but also the development of manufacturing capacity in the organizations which produce the equipment. Moreover, selecting simply one priority and devoting all facilities money to that one would not be the appropriate methodology for developing the system as a coherent whole.

Therefore, consistent with the priorities we have given to the various objectives and with our judgment as to the costs and benefits of expenditures in each of the areas, we propose that the Congress authorize and appropriate public television facilities grants according to the following schedule:

Fiscal year 1976: $60 million.
Fiscal year 1977: $45 million,
Fiscal year 1978: $54 million,
Fiscal year 1979: $40 million,
Fiscal year 1980: $38 million.

We further propose that D/HEW allocate these funds according to the following priorities:

1. Increasing the efficiency, flexibility, and responsiveness of existing station services, through the upgrading of transmitters and the acquisition of such equipment as videotape recorders and flexible production facilities.
2. Initiating full services for those persons outside even the theoretical reach of public television, by constructing new stations.

The Subcommittee will note that these cost estimates are revised rather sharply downward from the facilities needs cost estimates in the 1973 *Report of the Task-Force on the Long-Range Funding of Public Broadcasting*. Part of the reason is the increasing availability of relatively inexpensive equipment; part is our more conservative estimates of needs in light of what we perceive as economically feasible; and part, of course, is that the Task Force figures included projections of radio needs, whereas this statement is limited to public television.

We would again underscore that the methodology and the program we have outlined for achieving our objectives are patterns derived from an overview of all public television stations, and should be treated accordingly. The needs of any particular station may vary considerably from the overall pattern—one station may already have a full complement of local production equipment, another may have to start from scratch—while remaining wholly consistent with our common objectives.

To sum up, we offer this as a realistic and achievable program. It is soundly based in demonstrated needs. And it holds the promise, in five years, of developing our public television system to the point where it can truly deliver the potential envisaged in the Public Broadcasting Act of 1967—a nationwide system of public television marked by excellence, diversity, and service to the local community.

---

[1] The list may be found in the committee files.

## UHF IMPROVEMENT

| 76 | | 77 | | 78 | | 79 | | 80 | | TOTAL | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| # | $ | # | $ | # | $ | # | $ | # | $ | # | |
| 20 | 12.0 | 20 | 10.0 | 10 | 5.0 | 4 | 2.0 | 4 | 2.0 | 58 | 31.0 |

# = Stations affected
$ = Millions of Dollars

26 + Inflation = 31.0

## VIDEO TAPE MACHINES

| 76 | | 77 | | 78 | | 79 | | 80 | | TOTAL | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| # | $ | # | $ | # | $ | # | $ | # | $ | # | $ |
| 75 | 8.25 | 75 | 8.25 | 50 | 6.0 | 50 | 6.0 | .34 | 2.17 | 28.4 | 30.67 |

# = Number of machines
$ = Millions of Dollars

Figures include 263 immediate need and 37 anticipated needed machines for stations in process of activation. Figures also include inflation factor after third year.

## STUDIO COLOR PRODUCTION UPGRADING

| Fiscal Year | 76 | | 77 | | 78 | | 79 | | 80 | | TOTAL | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | # | $ | # | $ | # | $ | # | $ | # | $ | # | $ |
| Color Cameras | 75 | 5.25 | 75 | 5.25 | 50 | 3.5 | 33 | 2.21 | 0 | 0 | 233 | 16.3 |
| Video Cart Mach. | 10 | 2.0 | 5 | 1.0 | 5 | 1.0 | 0 | 0 | 0 | 0 | 20 | 4.0 |
| Film Chains | 47 | 4.2 | 30 | 2.75 | 16 | 1.5 | 13 | 1.4 | 8 | .15 | 114 | 11.0 |
| Tech Support | * | 8.0 | * | 6.0 | * | 2.0 | * | 2.0 | 0 | 0 | * | 18.0 |
| Totals | ▨ | 15 | ▨ | 15 | ▨ | 8 | ▨ | 7 | ▨ | 4.3 | ▨ | 49.3 |

* Tech Support Equipment consists of many small elements which will vary from installation to installation (such as monitoring test and signal distribution equipments).

**NEW STATION COSTS** (Equipment only - No Building or Support material):

| | | |
|---|---|---|
| Studio & related equipment | 1.293 | million |
| Transmitter plant (or Repeater) | 1.422 | million |
| Total | 2.715 | million |

Studio costs conform to guideline figures. Transmitter plant cost includes 10% rise to compensate for 25% increase in tower costs which occured during the past year. As the requested federal funds will not become available unti' FY '76, the increase seemed appropriate. It is expected that studio and related equipment costs will not increase more than 5% per year for the next 5 years, however, steel tower and better UHF transmitters will raise transmitter plants to increase at a 10% rate at first and 5% later.

| FY | 76 | 77 | 78 | 79 | 80 |
|---|---|---|---|---|---|
| Studio | 1.293 + 5% | 1.348 + 5% | 1.426 + 5% | 1.497 + 5% | 1.572 |
| Transmitter | 1.422 + 10% | 1.564 + 10% | 1.721 + 5% | 1.507 + 5% | 1.897 |
| Total | 2.715 | 2.922 | 3.147 | 3.304 | 3.469 |

Price information for the basic figures (not accounting for inflation) were from "minimum Facility levels for Public Television Stations-Guidelines and Recommendations", PBS Engineering and technical Operations Report E-7401, and Produced in coordination with the PBS Engineering Committee (members listed).

Individual item cost were taken from manufacturer, list prices and adjustments made as the result of recent purchases and the considered opinions of the PBS Engineering Committee.

NUMBER OF PLANNED AND NEEDED FACILITIES

| FY | 76 | | 77 | | 78 | | 79 | | 80 | | TOTAL | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Facility | R | OS | R | OS | R | OS | R | OS | R | OS | R | OS | TOTAL |
| Planned | 10 | 8 | 7 | 1 | 5 | 3 | 0 | 0 | 0 | 0 | 22 | 12 | 34 |
| Needed | 0 | 0 | 1 | 1 | 7 | 5 | 12 | 5 | 11 | 6 | 31 | 17 | 48 |
| Sub Total | 10 | 8 | 8 | 2 | 12 | 8 | 12 | 5 | 11 | 6 | 53 | 29 | 82 |
| Total | 18 | | 10 | | 20 | | 17 | | 17 | | 82 | | |

R = Repeater Station - Transmitter only

OS = Origination Station with Studio

COSTS OF PLANNING AND NEEDED FACILITIES

| FY | 76 | | 77 | | 78 | | 79 | | 80 | | TOTAL | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Facility | R | OS | R | OS | R | OS | R | OS | R | OS | R | OS | TOTAL | |
| Planned | 14.22 | 21.72 | 10.95 | 2.92 | 8.61 | 9.44 | 0 | 0 | 0 | 0 | 33.78 | 34.08 | 67.86 | 34 |
| Needed | 0 | 0 | 1.56 | 2.92 | 12.05 | 15.74 | 21.86 | 16.62 | 20.87 | 20.81 | 56.34 | 56.09 | 112.43 | 48 |
| Sub Total | 14.22 | 21.72 | 12.51 | 5.84 | 20.66 | 25.18 | 21.86 | 16.62 | 20.87 | 20.81 | 90.12 | 90.17 | 180.29 | 82 |
| Total | 35.94 | | 18.35 | | 45.84 | | 38.48 | | 41.68 | | 180.29 | | | |

Figures are in Millions of Dollars

SUMMARY

| CATEGORY | 76 | 77 | 78 | 79 | 80 | TOTAL |
|---|---|---|---|---|---|---|
| UHF IMPROVEMENT | 12.00 | 10.00 | 5.00 | 2.00 | 2.00 | 31.00 |
| VTR MACHINES | 8.25 | 8.25 | 6.0 | 6.0 | 2.17 | 30.67 |
| STUDIO IMPROVEMENT | 15.00 | 15.00 | 8.00 | 7.00 | 4.30 | 49.30 |
| ELECTRONIC JOURNALISM | 8.53 | 8.53 | 6.51 | 0.62 | 0.62 | 24.81 |
| NEW STATIONS | 35.94 | 18.35 | 45.84 | 38.48 | 41.68 | 180.29 |
| TOTALS | 79.72 | 60.13 | 71.35 | 54.10 | 50.77 | 316.07 |

Fed Share 75% = 60 45 54 40 38 = 237

Studio Improvement include: Film Chains, video cart machines, color production cameras and technical support (see separate list)

# Minimum Facility Levels
# For
# Public Television Stations

## Guidelines and Recommendations

# ENGINEERING REPORT

PBS Engineering and
Technical Operations
Report E7401
Preliminary May 10, 1974
Revised July 1, 1974
Revised October 1974

PUBLIC
BROADCASTING
SERVICE

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## Public Television Station Facilities

The PBS Engineering Committee* has developed a set of recommended Guidelines for the technical facilities complement for various categories of public television stations which would make them comparable on the average to other stations in the community with regard to radiated power, production capability and technical quality.

The price of these facilities, including support equipment and installation, has been estimated. A detailed cost breakdown is attached.

The Committee has examined the technical facilities inventory of each station and compared it with the facilities complement in the Guidelines. Where the inventory falls short of the Guidelines, the cost to increase the facilities to the Guideline level has been estimated.

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*Membership list attached.

## Guidelines for Public Television Station Facilities

### Over-the-Air Transmission

The radiated power of public broadcasting stations (Originating, Sister, and Repeater) must produce a signal strength that will result in television reception in the home and school comparable to reception from other stations in the community.

To achieve this in the average location, maximum authorized radiated power is necessary for VHF and a minimum of approximately 2 megawatts is necessary for UHF .1/ In the case of UHF, the 2 megawatts effective radiated power should be achieved with a low to medium gain antenna of 20 to 30 and a transmitter output power of at least 60 kilowatts and perferably 110 kilowatts.

The transmitting tower should be co-located with other broadcast towers in the community and at maximum allowable height, subject to local conditions.

Departures from these guidelines should be accompanied by an engineering study.

There should be parallel transmitters and an emergency power generator capable of operating at least one of the transmitters.

The transmitters should be remotely controlled. Automated transmitters may prove practical in the next year or two in which case they would be recommended.

The transmitter shall be color capable.

Precision carrier off-set is encouraged.

---

1/ The minimum of 2 megawatts is recommended, rather than the maximum authorized power of 5 megawatts, because of the high operating cost of utility company power. Several manufacturers are working on the improvement of UHF transmitter efficiency. If the efficiency were improved, for example by 50 percent, the effective radiated power should be increased accordingly.

## GUIDELINES FOR PUBLIC TELEVISION STATION COLOR PRODUCTION FACILITIES

| | 3000 Hrs. B'Cast/312* Basic A | 3900 Hrs. B'Cast/416* Standard B | 4900 B'Cast/624* State or Regional C | 5500 B'Cast/832* National D | Additional for origination to sister stations |
|---|---|---|---|---|---|
| Studios | 1 2000 sq. ft. | 1 2000 sq. ft. | 1 2000 sq. ft.<br>1 4000 sq. ft. | 1 2000 sq. ft.<br>1 6000 sq. ft.<br>1 8000 sq. ft. | -- |
| Cameras | 3 | 3 | 4 | 8 | -- |
| Video Tape | 4 | 4 | 7 | 10 | 2 |
| Cartridge Video Tape | -- | -- | 1 | 1 | -- |
| Video Tape Editing | 2 non programmable | 2 non programmable | 3 non programmable<br>1 programmable | 3 non programmable<br>1 programmable | -- |
| Film Islands | 2 | 2 | 3 | 3 | 1 |
| Character Generator | 1 videograph | 1 videograph | 1 graphic font | 2 graphic font | -- |
| Film Production | 2 16mm cameras<br>1 35mm slide cam. | 2 16mm cameras<br>1 35mm slide cam. | 2 16mm doub. sys.<br>1 35mm slide cam. | 4 16mm doub. sys.<br>1 35mm slide cam.<br>film processor | -- |
| Mobile Units | -- | Minimote<br>2 port. cam.<br>1 port. VT | Minimote<br>2 port. cam.<br>1 port. VT<br>Van<br>4 cam.<br>2 VT | Minimote<br>2 port. cam.<br>1 port. VT<br>Van<br>4 cam.<br>2 VT | -- |
| TOTAL COST | $1,613,800 | $1,902,200 | $5,072,300 | $7,687,575 | $316,000 |

Transmitter plant costs (same for A.B.C.& D)

| | | |
|---|---|---|
| Low Channel VHF | (2-6) | $1,207,000 |
| High Channel VHF | (7-13) | 1,285,000 |
| UHF Channel | (14-83) | 1,536,000 |

Cost for land and the building shell are not included.

Tenant improvements (construction, air conditioning and power) are included for Technical areas only, not office space and other non-technical support areas.

---

* Hours of original programs produced (includes ITV) in one year

10/30/74

## Summary of Equipment Needed for Public Television Stations to Achieve Guideline Levels

The funds needed to bring public television stations presently in existence up to recommended guideline levels are approximately $127.1 million. A breakdown of where these funds are needed begins on page 5.

At present there are 248 transmitters and 152 stations which originate programming. The difference is primarily due to a number of state systems with multiple transmitters carrying the programming from the main state center. This study includes all 248 transmitters and 152 originating stations.

For purpose of establishing technical facilities guidelines, stations have been arranged in the following categories:

Class A - 98 stations

3000 hours of broadcast time per year
312 hours of original programs produced during the year, including ITV

Class B - 34 stations

3900 hours of broadcast time per year
416 hours of original programs produced during the year, including ITV

Class C - 16 stations

4900 hours of broadcast time per year
624 hours of original programs produced during the year, including ITV

Class D - 4 stations

5500 hours of broadcast time per year
832 hours of original programs produced during the year, including ITV

Total originating stations A, B, C & D = 152
Sister stations = 9
Satellite transmitters = 87
248

Additional facilities needs broken down as follows:

### High Band Color Videotape Recorders
(recommended minimum: 4)

| | Number of Stations | VTRs Needed |
|---|---|---|
| A and B class stations with 4 or more HBC-VTR | 28 | 0 |
| 3 | 19 | 19 |
| 2 | 39 | 78 |
| 1 | 18 | 54 |
| 0 | 28 | 112 |
| | 132 | 263 |
| Additional HBC-VTR to bring C and D Stations to minimum | | 21 |
| Total VTRs | | 284 |

284 VTRs @ $90,000 = $25.56 million
Installation and spare parts 284 x $18,000 = $5.112 million
Total installed cost for VTRs = $30.672 million

### Broadcast Quality Studio Color Cameras
(recommended minimum: 3)

| | Number of Stations | Cameras Needed |
|---|---|---|
| A and B class stations with 3 or more color cameras | 54 | 0 |
| 2 | 30 | 30 |
| 1 | 3 | 6 |
| 0 | 44 | 132 |
| | 131 | 168 |
| Additional cameras for C and D stations | | 26 |
| Total Cameras | | 194 |

194 color cameras @ $70,000 = $13.58 million
Installation and spare parts 194 x $14,000 = $2.716 million
Total installed cost for color cameras = $16.296 million

## Color Film Islands

(Recommended minimum: 2)

Each film island to include:

- one color telecine camera
- two 16 mm projectors
- one slide projector

| | Number of stations | Film Islands Needed |
|---|---|---|
| A and B stations with 2 or more | 44 | 0 |
| 1 | 62 | 62 |
| 0 | 26 | 52 |
| | 132 | 114 |
| Additional Film Islands for Class C and D stations | | 9 |
| Total Film Islands | | 123 |

123 Film Islands @ $75,000 = $9.225 million
Installation and spare parts 123 x 15,000 - $1.845 million
Total installed costs for color film islands = $11.07 million

## Over-the-Air Transmission

In addition 48 of the Class A and B stations need effective radiated power and/or antenna height increases for a total of $23.717 million.

## Studios

Studio expansion and upgrading of peripheral equipment throughout 132 A and B stations with available data comes to $20.158 million.

## Funds Distribution for 132 Class A and B Stations

| | | |
|---|---|---|
| 263 Videotape Recorders | $28.404 | |
| 168 Studio Color Cameras | 14.112 | |
| 114 Color Film Cameras | 10.26 | |
| 48 Power and/or Antenna Height Increases | 23.717 | |
| Studio Expansion and Modernizing | 20.185 | |
| FUNDS NEEDED | | $96.678 million |

| | |
|---|---|
| Additional Equipment Funds Needed for 9 Sister Stations | 2.22 million |

## Additional Equipment Funds for State, Regional and National Production Centers (16 C and 4 D) = 20

| | | |
|---|---|---|
| 21 Videotape recorders | $ 2.268 | |
| 26 Studio Color Cameras | 2.184 | |
| 9 Color Film Cameras | .810 | |
| 20 Quad video cartridge machines | 4.000 | |
| 11 Mini-motes | 3.168 | |
| 5 Grade C remote vans | 4.048 | |
| 2 Grade D remote vans | 2.248 | |
| Total Equipment Needs | 18.726 | |
| Power and/or Antenna Height Increases for C and D Stations | 2.360 | |
| Studio Expansion and Upgrading of Peripheral Equipment for C and D Stations | 7.122 | |
| TOTAL NEEDED FOR C AND D STATIONS | | 28.208 million |

| | |
|---|---|
| Total Funds to Bring Public Television Into Parity with the Industry | $127.106 million |

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## Rationale for Equipment Types Recommended in the Public Television Stations Facilities Guidelines

### VIDEOTAPE - HIGH BAND COLOR QUAD vs HELICAL SCAN

The high band color quadruplex format is recommended for the following reasons:

1. Quad is now the accepted industry standard world-wide with over 90% of all television broadcast operations using this format for video recording. In contrast, there are no standards at this time among manufacturers for a helical format that would enable interchange among broadcasters in the USA.

2. Another factor in the choice between quadruplex and helical in the past has been tape stock cost. With recent models of quadruplex tape machines the 7½ IPS recording speed is practical for stations that record and play back first generation tapes for their own use. Thus the differences in tape cost can be less of a factor in the decision between formats.

3. Hardware costs for helical equipment suitable for producing edited program master recordings are approximately equal to the cost for high band color quad equipment with such capabilities for the same performance level.

4. Machine operating costs have been basically tied to headwheel life in the past. New technology in pole tip materials, tape surfaces and modern recording techniques have substantially increased the useful life of quadruplex videoheads to the point where the cost of operating quad videotape machines is within the reach of the smaller station and should no longer be a major factor in the choice between quadruplex and helical.

5. PBS operating requirements as a program distribution facility necessitate program input from member stations as producing agencies. This program interchange is greatly facilitated by all stations using the same standardized format.

## BROADCAST QUALITY STUDIO COLOR TELEVISION CAMERAS
## $70,000 vs $30,000 VARIETY

The $70,000 quality range was chosen for the following reasons:

1. The $70,000 figure represents a complete camera chain including pick-up tubes, monitoring, zoom lens and pedestal mount for the camera. The average $30,000 variety has most of these ancillary components as extras.

2. The $70,000 cameras generally use the 30 mm lead oxide pick-up tube which has been in service for about 10 years and has virtually all the bugs worked out of its manufacture. Also, the manufacture of yokes and optics for this type of camera has reached a high degree of quality and reliability. This is not necessarily the case with the $30,000 cameras which generally use the 25.4 mm lead oxide tube, in some cases mixed with vidicon or silicon diode tubes. Experience has already shown, in the three years these cameras have been on the market, that their yoke and optics quality and reliability leave something to be desired.

3. It may be thought that a more sophisticated camera is harder to operate and maintain for the smaller station with limited expertise and personnel, but the reverse is true. The more sophisticated camera has many automatic circuits that electronically control certain functions which have to be done manually on the inexpensive ones, requiring a high level of operating expertise to produce comparable quality pictures. Experience has also shown that the more sophisticated camera has a higher degree of reliability and stability than the lesser variety and presents less of a maintenance load to the smaller station.

4. The inherent increase in quality with the more sophisticated camera also gives the process of distribution and duplication of the programs made with it a better chance of success in the Station Program Cooperative.

## BROADCAST QUALITY TELECINE EQUIPMENT vs COMPROMISE CONVERSIONS

(One color television camera, one multiplexer, two 16 mm projectors with magnetic sound, and one 35 mm slide projector)

The full broadcast quality telecine chain is recommended for the following reasons:

1. The camera itself should be one designed for telecine use and not a studio camera adapted to telecine use. The general electrical and mechanical stability is superior to the conversion, making maintenance and set-up more convenient. Also, as is the case with studio cameras, yokes and optics designed for this specific use are inherently more reliable than a compromise situation. Most modern film cameras also use the same major electronic components as their studio counterparts, thus simplifying interchangeability and operator training.

2. A projector designed for television is inherently more reliable and rugged in this application than a conventional audio-visual type with a converted shutter. This is borne out by many cases of poor performance and high maintenance costs where these compromises were tried.

3. The requirement for magnetic sound reproduction is necessary for local origination of magnetically striped film, which is the accepted industry standard for news and interview type film production. The guidelines also have a minimum of two single system mag-sound 16 mm cameras, so it is necessary to have the projectors capable of playing the film shot with these cameras.

4. The 35 mm slide projector can be of several different types which are now generally available. All hold 2x2 inch mounts of 35 mm film or 126 instamatic slides which are generally the only two formats used for telecine. The difference between a type made for television and a converted A/V model are built-in spare lamp, flat field optics, a rapid change between slides with no blank period, and full remote control capabilities. A few conversions can have rudimentary remote control and flat field optics fitted, but again quality and reliability over the long term may not justify the apparent savings.

## PTV Station Color Production Facilities Cost Summary

### A Facility

| | |
|---|---|
| Studio (A1) | 716,750 |
| VT - TC (A2) | 627,050 |
| MC (A2) | 70,250 |
| EC (A3) | 44,000 |
| Test Eq (A3) | 30,000 |
| Term Area Cons Costs (A3) | 100,000 |
| Film Production (A4) | 25,750 |
| Total A Facility | $1,613,800 |

### B Facility

| | |
|---|---|
| A Facility | 1,613,800 |
| Mini Mote (B1) | 288,400 |
| Total B Facility | $1,902,200 |

### C Facility

| | |
|---|---|
| Remote Unit (C1) | 809,550 |
| Studio (C2) | 908,250 |
| VT - TC (C3) | 1,571,100 |
| MC (C3) | 173,500 |
| EC (C4) | 500,000 |
| Test Equip (C4) | 45,000 |
| Term Area Cons Costs | 150,000 |
| Film Production (C5) | 149,750 |
| 2000 Sq. Ft. Studio | 716,750 |
| Mini Mote | 288,400 |
| Total C Facility | $5,312,300 |

### D Facility

| | |
|---|---|
| Remote Unit (D1) | 1,023,550 |
| Studio (D2) | 1,684,500 |
| VT - TC (D3) | 2,055,625 |
| MC (D3) | 177,750 |
| EC (D4) | 698,000 |
| Test Equip (D4) | 60,000 |
| Term Area Cons Costs (D4) | 250,000 |
| Film Production (D5) | 184,750 |
| 2000 Sq. Ft. Studio | 716,750 |
| 6000 Sq. Ft. Studio | 908,250 |

| | |
|---|---|
| Mini Mote | 288,400 |
| Total D Facility | $8,047,575 |

E Sister Station Origination

| | |
|---|---|
| Add (El) to A, B, C or D as applicable | $ 316,025 |

## A1

## Basic Station - Category A

### Studio (2000 sq. ft., 3 cameras)

| | | |
|---|---|---|
| **Stage and Control Room Tech. Equip.** | | |
| 3 Cameras @ 70,000 | $210,000 | |
| 1 Studio switcher @ 30,000 | 30,000 | |
| 12 B & W monitors @ 500 | 6,000 | |
| 2 Color monitors @ 3500 | 7,000 | |
| 1 Audio console @ 5000 | 5,000 | |
| Audio accessories, Control Room Cartridge - Reel to reel | 10,000 | |
| Audio accessories, studio floor LS, Mics, Booms, etc. | 5,000 | |
| **Video Control & Routing** | | |
| 2 Color monitor | 7,000 | |
| 2 Waveform monitors | 3,750 | |
| 1 Matrix switcher (part of studio) | 500 | |
| | | $284,250 |
| Spare parts (10%) | | 30,000 |
| Installation | | 30,000 |
| **Stage** | | |
| Lighting equipment | 60,000 | |
| Cyclorama | 12,500 | |
| Air cond., Heating, Architectural | 220,000 | |
| | | 292,500 |
| Support Areas 4000 sq. ft. @ 20 ft. | | 80,000 |
| | | $716,750 |

## A2

### VT & TC

| | | |
|---|---|---|
| 4 VTR @ 90,000 | $360,000 | |
| 2 TC @ 75,000 | 150,000 | |
| 2 Vectorscopes @ 3,025 | 6,050 | |
| 2 Color monitors @ 3,500 | 7,000 | |
| | | $523,050 |
| Spare parts (10%) | | 52,000 |
| Installation (10%) | | 52,000 |

### MC

| | | |
|---|---|---|
| 1 MC switcher A/V | 15,000 | |
| 2 Color monitors @ 3500 | 7,000 | |
| 8 B & W monitors @ 500 | 4,000 | |
| 1 Vectorscope | 3,025 | |
| 2 Waveform monitors @ 1875 | 3,750 | |
| 1 Console | 500 | |

### Transmitter Monitoring

| | | |
|---|---|---|
| 1 Precision demod | 10,000 | |
| 1 Frequency - modulation monitor | 5,500 | |
| 1 VITS generator | 4,100 | |
| 1 Color monitor | 3,500 | |
| 1 Waveform monitor | 1,875 | |
| | | 58,250 |
| Installation (10%) | | 6,000 |
| Spare parts (10%) | | 6,000 |
| | | $697,300 |

## A3

### Equipment Center

| | | |
|---|---|---|
| 1 Pulse system | $7,500 | |
| 1 Interphone system | 500 | |
| 1 Intercom system | 3,000 | |
| 1 Terminal equipment<br>A/V amps, processors<br>Patch bays, racks | 15,000 | |
| Character generator | 7,000 | $ 33,000 |
| Installation (10%) | | 4,000 |
| Spare Parts (10%) | | 4,000 |
| Test Equipment | | 30,000 |
| Term Area Building Costs<br>Term Area Electrical Costs<br>Term Area A/C - Heat Costs | 2000 sq. ft. @ 50 | 100,000 |
| | | $171,000 |

## A4

### Film Production

| | | | |
|---|---|---|---|
| 2 | 16 mm single system Mag @ 12,000 1200 ft. reels | $24,000 | |
| | Editing equipment | 1,000 | |
| 1 | 35 mm still camera and accessories | 750 | |
| | | | $ 25,750 |

## B1

Standard Station - Category B
(Same as category A, plus mini mote)

Mini Mote

| | | |
|---|---|---|
| 2 Cameras @ 74,000 | $148,000 | |
| 1 VTR | 65,000 | |
| Terminal Equipment | 11,000 | |
| Audio & Communications | 2,400 | |
| Van, Generator, Air Cond., Hoist | 34,000 | |
| Test Equipment | 2,000 | |
| | | $262,400 |
| Spare Parts (10%) | | 26,000 |
| | | $288,400 |

## C1

**State or Regional - Category C**

**Remote Unit**

| | | |
|---|---|---|
| 4 Cameras @ 70,000 | $280,000 | |
| 1 Video switcher | 45,000 | |
| 1 Audio console and aux. equip. | 60,000 | |
| Communications | 10,000 | |
| 4 Color monitors @ 3500 | 14,000 | |
| 2 Vectorscopes @ 3025 | 6,050 | |
| Microwave equipment | 16,000 | |
| 1 Truck w/air cond., winch, etc. | 65,000 | |
| 1 AC generator | 10,000 | |
| 1 Rubidium frequency standard | 7,500 | |
| 1 Pulse system | 10,000 | |
| Test equipment | 10,000 | |
| Camera and power cables | 10,000 | |
| 2 Video tape recorders @ 90,000 | 180,000 | |
| Test and check out | 5,000 | |
| Character generator | 7,000 | |
| | | 735,550 |
| Spare parts (10%) | | 74,000 |
| | | $809,550 |

## C2

**Studios** (1 studio 2000 sq. ft., 1 studio 4000 sq. ft.)

### Second Studio (4000 sq. ft.)

#### Stage and Control Room Tech. Equip.

| | | |
|---|---|---|
| 1 Studio switcher | $50,000 | |
| 2 Color monitors @ 3500 | 7,000 | |
| 12 B & W monitors @ 500 | 6,000 | |
| 1 Audio console 36 x 8 | 70,000 | |
| CR accessories | 15,000 | |
| Studio accessories | 10,000 | |
| 1 16 track record/playback w/Dolby | 30,000 | |
| Interlock | 10,000 | |
| | | $198,000 |

#### Video Control & Routing

| | | |
|---|---|---|
| 2 Color monitors | 7,000 | |
| 2 Waveform monitors | 3,750 | |
| Match swr section of st. swr. | 500 | |
| | | 11,250 |
| Spare parts (10%) Technical | | 21,000 |
| Installation (10%) Technical | | 21,000 |

#### Stage

| | | |
|---|---|---|
| Lighting equipment $25 sq. ft. | 100,000 | |
| Cyclorama | 17,000 | |
| Air Cond., Heat 4000 sq. ft. Building costs @ 110/sq. ft. | 440,000 | |
| | | 557,000 |
| Support areas, 5000 sq. ft. @ 20 sq. ft. | | 100,000 |
| | | $908,250 |
| 2000 sq. ft. studio (see A-1) | | $716,750 |

## C3

**VT & TC**

| | | |
|---|---|---|
| 4 VTR @ 140,000 | $560,000 | |
| 3 VTR @ 90,000 | 270,000 | |
| 3 TC @ 75,000 | 225,000 | |
| 4 Vectorscopes @ 3025 | 12,100 | |
| 4 Color monitors @ 3500 | 14,000 | |
| 1 Cartridge VTR | 200,000 | |
| Double System Sound Equipment | 30,000 | |
| | | $1,311,100 |
| Spare parts (10%) | | 130,000 |
| Installation (10%) | | 130,000 |
| | | $1,571,100 |

**MC**

| | | |
|---|---|---|
| 1 MC switcher A/V | 18,000 | |
| 2 Color monitors @ 3500 | 7,000 | |
| 12 B & W monitors @ 500 | 6,000 | |
| 1 Vectorscope | 3,025 | |
| 2 Waveform monitors @ 1875 | 3,750 | |
| 1 Console | 750 | |
| **Transmitter Monitoring** | | |
| 1 Precision demod | 10,000 | |
| 1 Frequency - modulation monitor | 5,500 | |
| 1 VITS generator | 4,100 | |
| 1 Color monitor | 3,500 | |
| 1 Waveform monitor | 1,875 | |
| 1 Automation System | 80,000 | |
| | | 143,500 |
| Spare parts (10%) | | 15,000 |
| Installation (10%) | | 15,000 |
| | | $173,500 |

## C4

**Equipment Center**

| | | |
|---|---|---|
| 1 Pulse system | $50,000 | |
| 1 Interphone system | 2,500 | |
| 1 Intercom system | 3,000 | |
| 1 Terminal equipment A/V amps, processors Patch Bays, racks | 30,000 | |
| 1 Routing switcher 30 x 40 | 96,000 | |
| 1 Character generator | 45,000 | |
| 1 Programmed video editing system | 175,000 | |
| 1 Rubidium frequency standard | 7,500 | |
| 1 Character generator | 7,000 | |
| | | $416,000 |
| Installation (10%) | | 42,000 |
| Spare Parts (10%) | | 42,000 |
| Test Equipment (additional) | | 45,000 |
| Term Area Building Costs<br>Term Area Electric Costs<br>Term Area A/C, Heat Costs | 3000 sq. ft. @ $50 | 150,000 |
| | | $695,000 |

## C5

**Film Production**

| | | |
|---|---|---|
| 2 16 mm single system @ 12,000 Mag sound 1200 ft. reels | $24,000 | |
| 2 16 mm double system @ 15,000 | 30,000 | |
| Editing equipment | 25,000 | |
| 1 Film processor | 50,000 | |
| 1 35 mm still camera | 750 | |
| | | $129,750 |
| Installation | | 10,000 |
| Spare parts | | 10,000 |
| | | $149,750 |

## D1

**National - Category D**

**Full Size Remote Unit**

| | | |
|---|---|---|
| 4 Cameras @ 70,000 | $280,000 | |
| 1 Video switcher | 45,000 | |
| 1 Audio cons and aux equip. | 60,000 | |
| Communications | 10,000 | |
| 4 Color monitors @ 3500 | 14,000 | |
| 2 Vetorscopes @ 3025 | 6,050 | |
| Microwave equip. | 16,000 | |
| 1 Truck w/air cond., winch | 65,000 | |
| Generator | 10,000 | |
| 1 Rubidium frequency standard | 7,500 | |
| Pulse system | 10,000 | |
| Test equipment | 10,000 | |
| Camera and power cables | 10,000 | |
| Test and check out | 5,000 | |
| 2 Video tape recorders @ 90,000 | 180,000 | |
| Slow motion machine | 130,000 | |
| Character generator | 45,000 | |
| Slide projector | 30,000 | |
| | | $ 933,550 |
| Spare parts | | 90,000 |
| | | $1,023,550 |

## D2

**3 Studios** (2000 sq. ft., 6000 sq. ft., 8000 sq. ft.)

**Third Studio** (8000 sq. ft.)

### Stage and Control Room Tech. Equip.

| | | |
|---|---|---|
| 4 Cameras @ 70,000 | $280,000 | |
| 1 Studio switcher | 50,000 | |
| 2 Color monitors @ 3500 | 7,000 | |
| 12 B & W monitors @ 500 | 6,000 | |
| 1 Audio console 36 x 8 | 70,000 | |
| CR accessories | 15,000 | |
| Studio accessories | 10,000 | |
| 16 track machine & interlock from C | ---- | |
| | | $ 438,000 |

### Video Control & Routing

| | | |
|---|---|---|
| 2 Color monitors @ 3500 | 7,000 | |
| 2 Waveform monitors @ 1875 | 3,750 | |
| Match swr section of st. swr | 750 | |
| | | 11,500 |
| Installation 10% Technical | | 45,000 |
| Spare Parts 10% Technical | | 45,000 |

### Stage

| | | |
|---|---|---|
| Lighting equipment $25 sq. ft. | 200,000 | |
| Cyclorama | 25,000 | |
| Air Cond., Heat Vent 8000 sq. ft. Building Costs @ 110/sq. ft. | 880,000 | |
| | | 1,105,000 |
| Support areas, 2000 sq. ft. @ $20 (In addition to those provided in C) | | 40,000 |
| | | $1,684,500 |

## D3

### VT & TC

| | | |
|---|---|---|
| 6 VTR @ 140,000 | $840,000 | |
| 4 VTR @ 90,000 | 360,000 | |
| 3 TC @ 75,000 | 225,000 | |
| 5 Vectorscopes @ 3025 | 15,125 | |
| 5 Color monitors @ 3500 | 15,500 | |
| 1 Cartridge VTR | 200,000 | |
| Double System Equipment | 60,000 | |
| | | $1,715,625 |
| Installation (10%) | | 170,000 |
| Spare Parts (10%) | | 170,000 |
| | | $2,055,625 |

### MC

| | | |
|---|---|---|
| 1 MC switcher A/V | 20,000 | |
| 2 Color monitors @ 3500 | 7,000 | |
| 15 B & W monitors @ 500 | 7,500 | |
| 1 Vectorscope | 3,025 | |
| 2 Waveform monitors @ 1875 | 3,750 | |
| 1 Console | 1,000 | |
| **Transmitter Monitoring** | | |
| 1 Precision demod | 10,000 | |
| 1 Frequency - modulation monitor | 5,500 | |
| 1 VITS generator | 4,100 | |
| 1 Color monitor | 3,500 | |
| 1 Waveform monitor | 1,875 | |
| 1 Automation system | 80,000 | |
| | | 147,250 |
| Installation (10%) | | 15,000 |
| Spare Parts (10%) | | 15,000 |
| | | $2,232,875 |

## D4

### Equipment Center

| | | |
|---|---|---|
| 1 Pulse system | $65,000 | |
| 1 Interphone system | 7,500 | |
| 1 Intercom system | 10,000 | |
| Terminal equipment | 50,000 | |
| A/V amps | | |
| Patch bays racks | | |
| 1 Routing switcher 40 x 60 | 170,000 | |
| 2 Character generator @ 45,000 | 90,000 | |
| 1 Programmed video editing system | 175,000 | |
| 1 Rubidium frequency standard | 7,500 | |
| 1 Character generator | 7,000 | |
| | | $ 582,000 |
| Installation (10%) | | 58,000 |
| Spare Parts (10%) | | 58,000 |
| Test Equipment (additional) | | 60,000 |
| Term Area Building Costs<br>Term Area Electrical Costs<br>Term Area A/C, Heat Costs | 5000 sq. ft. @ $50 | 250,000 |
| | | $1,008,000 |

## E1

### Sister Station Origination

| | | |
|---|---|---|
| 2 VTR @ 90,000 | $180,000 | |
| 1 TC island @ 75,000 | 75,000 | |
| 1 Color monitor | 3,500 | |
| 1 Vectorscope | 3,025 | |
| | | $261,525 |
| Installation | | 26,000 |
| Spare Parts | | 26,000 |
| Modifications to MC | | 2,500 |
| | | $316,025 |

## Transmitter Plant

## Cost Breakdown

### VHF Low Band

| | |
|---|---|
| 35 kw Transmitter<br>(parallel 17.5 kw) | $325,000 |
| Antenna | 30,000 |
| Transmission Line<br>1000 ft. of 3 1/8 in. line including hangers and elbows | 17,000 |
| Tower<br>1000 ft., guyed with elevator. Includes erection and installation of antenna and transmission line. | 2[illegible]5,000<br>(This figure is average It may vary due to geographical conditions and wind loading zone.) |
| Remote Control<br>Includes automatic logging and interface. | 25,000 |
| Electric coaxial switches | 12,000 |
| Terminal Equipment<br>Includes phase equalizer, A/V switching, A/V input channels, basic monitoring | 28,000 |
| Capital Spares | 5,000 |
| Installation | 75,000 |
| Building<br>Does not include land or access road.<br>Includes primary power service and air conditioning | 220,000 |

### VHF Low Band (cont.)

| | |
|---|---|
| Precision Carrier Offset | $ 20,000 |
| Emergency Power Generator<br>100 kw steady state load capacity, installed. Includes fuel tank, changeover switch, automatic start-up. | 75,000 |
| Microwave System<br>(see separately itemized list) | 41,000 |
| Test Equipment<br>(see separately itemized list) | 64,000 |
| Spare parts | 5,000 |
| | $1,207,000 |

## Transmitter Plant

## Cost Breakdown

### VHF High Band

| | |
|---|---|
| 50 kw Transmitter<br>(parallel 25 kw) | $ 350,000 |
| Antenna | 75,000 |
| Transmission Line<br>1000 ft. of 6 1/8 in. line including hangers and elbows | 25,000 |
| Tower<br>1000 ft., guyed, with elevator. Includes erection and installation of antenna and transmission line. | 265,000<br>(This figure is average. It may vary due to geographical location and wind loading zone.) |

VHF High Band (cont.)

| | |
|---|---|
| Remote Control<br>Includes automatic logging and interface | $ 25,000 |
| Electric coaxial switches | 12,000 |
| Terminal Equipment<br>Includes phase equalizer, A/V switching, basic monitoring, A/V input channels | 28,000 |
| Capital Spares | 5,000 |
| Installation<br>Includes all equipment inside the building | 75,000 |
| Building<br>Does not include land or access road. Includes site preparation, air conditioning, and primary power service | 220,000 |
| Precision Carrier Offset | 20,000 |
| Emergency Power Generator<br>100 kw steady state load capacity, installed. Includes fuel tank, changeover switch, automatic start-up. | 75,000 |
| Microwave System<br>(see separately itemized list) | 41,000 |
| Test Equipment<br>(see separately itemized list) | 64,000 |
| Spare parts | 5,000 |
| | $1,285,000 |

## Transmitter Plant

## Cost Breakdown

**UHF**

| | |
|---|---|
| 110 kw Transmitter<br>Includes dual exciters, filterplexer and power combiner | $ 460,000 |
| Spare Klystron | 10,000 |
| Antenna<br>Gain of 25<br>Includes de-icers | 75,000 |
| Transmission Line<br>Outside 60,000<br>Inside 35,000 | 95,000 |
| Tower<br>1000 ft., guyed includes elevator, erection and installation of antenna and transmission line, and concrete work | 265,000<br>(This figure is average. It may vary due to geographical location and wind loading zone.) |
| Remote Control<br>Includes automatic logging and interface | 25,000 |
| Electric Coaxial Switches | 15,000 |
| Terminal Equipment<br>Includes phase equalizer, A/V switching, basic monitoring A/V input channels | 28,000 |
| Installation<br>Includes all equipment inside building | 75,000 |
| Building<br>Does not include land or access road. Includes preparation of site. | 243,000 |

UHF (cont.)

| | |
|---|---|
| Includes air conditioning and primary power service | |
| Precision Carrier Offset | $ 20,000 |
| Emergency Power Generator<br>425 kw steady load capacity, installed. Includes fuel tank, changeover switch. | 110,000 |
| Microwave System<br>(see separately itemized list) | 41,000 |
| Test Equipment<br>(see separately itemized list) | 64,000 |
| Spare Parts | 10,000 |
| | $1,536,000 |

Microwave System

| | |
|---|---|
| 2 Transmitters @ $5000 | $ 10,000 |
| 2 Receivers @ $5000 | 10,000 |
| 2 Antennas @ $1,200<br>6 ft. diameter with cover | 2,400 |
| 2 Dehydrators @ $500 | 1,000 |
| Transmission Line<br>200 ft. @ $2.00/ft. | 400 |
| 2 Hot Switches @ $1,000 | 2,000 |
| 3 Modulators @ $1,200<br>for audio sub-carrier | 3,600 |

**Microwave System** (cont.)

| | | |
|---|---|---|
| 3 Demodulators @ $1,200 for audio sub-carrier | | 3,600 |
| Installation | | |
| Equipment and measurements | $4000 | |
| Transmission line | 1500 | |
| Antennas | 2000 | |
| | | 7,500 |
| | | $40,500 |

Assumes hot standby receive and transmit.
Assumes 2 wide band sub-carrier channels
1 order wire sub-carrier channel.

## Transmitter Test Equipment

| | |
|---|---|
| Vectorscope | 3,000 |
| Waveform Monitor | 1,500 |
| Professional Color Monitor | 3,500 |
| Mobile General Purpose Test Scope with RFI Protection | 3,500 |
| Scope Camera | 600 |
| Video Test Signal Generator | 4,000 |
| Video Sweep Generator | 800 |
| Spectrum Analyzer and Storage Scope | 10,000 |
| Frequency counter with RFI protection capable of microwave frequency range | 5,000 |
| Video Noise Meter | 1,100 |
| Envelope Delay Measuring Set | 4,000 |
| Low Distortion Audio Oscillator and Transmission Measuring Set | 1,500 |
| Audio Noise Meter and Distortion Analyzer | 2,000 |
| Power Meter, Utility | 900 |
| Dummy Load with Power Meter | 4,000 |
| Precision Demodulator | 7,500 |
| Time Domain Reflectometer | 3,500 |
| Deviation Meter | 2,500 |
| Field Intensity Meter | 1,000 |
| Aural Modulation Monitor and Frequency Meter | 3,500 |
| | $63,400 |

## Cost Breakdown of An Average

## Electronic Journalism (EJ) Unit

| | |
|---|---|
| 2 Cameras @ $50K | $100K |
| 2 Portable R/O VTR @ $5K | 10K |
| 1 Portable Microwave System | 10K |
| 2 Full Capability VTR @ $7.5K | 15K |
| 1 (TBC) Time Base Corrector | 10K |
| 1 Editing System | 5K |
| Peripherals (Extra cabling, Monitors, Camera Mounts, etc.) | 5K |
| Complete 2 Camera EJ Unit = | $155K |

It should be noted that the average EJ camera can not be timed into a TV system in the usual way so each camera has its own VTR and multi-camera segments are edited from the individual tapes; much like film. The portable VTR's are record only, thus the need for the full capability base units to be used for editing.

No vehicle costs are stated here due to two factors. One is the varying need of the individual station. A small van or station wagon will comfortably accomodate a 2 camera system and can be used for other tasks when not on EJ assignments.

The other factor is that most federal grant money in the past has specifically excluded the purchase of vehicles with that money or the money used in the purchase of a vehicle to be used for matching funds. Therefore, the stations would be required to find individual funding for the vehicle apart from any federal assistance program.

## Timetable of Funding Requirements

UHF Improvement -5 year needs approximately $31 million

$26M needed now for approximately 50 stations
$ 4M added to Guidelines figure for inflation

| Year | 1st | 2nd | 3rd | 4th | 5th |
|---|---|---|---|---|---|
| Funds | $12M | $10M | $8M | $8M | $8M |
| Number Stations Affected | 20 | 20 | 10 | 4 | 4 |

The bulk of the first three years is for transmission improvement of existing UHF stations and the last two are for expected quarterly activations. An additional $4M was added due to significant increases in key components of the improvement program. An example, the cost of a 1000' tower has increased $100K in the last year! There are approximately 30 new towers included in the 50 stations mentioned here.

## Videotape Recorders

Presently need 263 so all stations would have 4 minimum. Over a 5 year period we would also need approximately 40 more for expected activations of new stations. We can use 37 to make a round figure of 300 machines over 5 years.

| Year | 1st | 2nd | 3rd | 4th | 5th |
|---|---|---|---|---|---|
| # of VTR's | 75 @ $110K | 75 @ $110K | 50 @ $120K | 50 @ $120K | 50 @ $120K |
| Cost | $8.25M | $8.25M | $6M | $6M | $6M |
| Total | $34.5 million | | | | |

($10K per machine added after 3rd year for inflation.)

The two manufacturers presently make between 200-250 machines a year. These are for both domestic and foreign sales and we could not expect to corner the market or have them build new facilities to accomodate the large number of machines required. However, the numbers over five years given here should be attainable on a per year basis.

## Electronic Journalism Units

Approximately 150 for existing stations
10 for expected activations over 5 years.
160 @ $155K = $24.8M

| Year | 1st | 2nd | 3rd | 4th | 5th | |
|---|---|---|---|---|---|---|
| No. of Units | 55 | 55 | 42 | 4 | 4 | = 160 units |
| Cost | $8.53M | $8.53M | $6.51M | $ .62M | $ .62M | = $24.8M |

Most manufacturers are making about 100 - 150 cameras a year, with a heavy demand by the commercial market. There are approximately 10 manufacturers presently making the quality and price range camera mentioned here and 10 to 15 cameras each for the next two years should present no undue problems.

Mr. MACDONALD. If I could interrupt on two things about that statement, is the only demonstration project that type of project that was discussed yesterday, the ATS-6?

Mr. GUNN. No. I think there are other demonstration projects. I think that is one way to do it. It may prove to be a very valuable one.

Mr. MACDONALD. What is another one?

Mr. GUNN. Another way to do it is making video casettes or video discs of programs and mailing them to these isolated communities and have them put this in some automatic player which plays these discs or tapes off automatically recorded at a set time schedule.

Mr. MACDONALD. You would be surprised, I think, in addition to the figures, as closely as I could elicit them yesterday, it is broken down in a ratio of 6 to 1 between the facilities and the demonstration.

One side of it is getting fairly short changed, I think, or it is? I don't know.

Mr. GUNN. It may not be. I think what is missing in my view, and the work may be done and we just may not have seen it, but I do know that the Corporation for Public Broadcasting and PBS—and others have not come together to address this problem, and we have not done our own studies to see what is required and to look at the various options. I think that is one thing that needs to be done.

Second, I think we ought to look at all options, not necessarily just the satellites, or just cable. There may be other ways, as I suggested, that this could be done.

It is difficult at this point in time to know what the right sum of money is to spend on demonstration projects.

Mr. MACDONALD. That is $64,000 question. It is very difficult for us to know also. I was going to ask what you all thought of what a reasonable sum was? I thought that the amount asked for was a very stingy amount of money. Is there any consensus among you all concerning what you feel is a reasonable amount?

Mr. LOOMIS. Mr. Chairman, is the point of demonstration to attempt to stimulate new ideas?

Mr. MACDONALD. That is the overall project. This is the money, I feel sure this will come out of here as a clean bill. This is a bill that the administration sent up and it was put in as an accommodation, as something to work from.

But where the money is included here, do you have presently or will you furnish in the very near future what you feel the lowest minimum is to do an adequate job?

Mr. BAIR. There might be another way to get at that problem.

Mr. LOOMIS. Let me answer you this way: Yes, we will get together and come up with a figure. Yes.

Mr. MACDONALD. Then, second, could you just give me, in political parlance, a ballpark figure of what you think it is now?

Mr. GUNN. I think one of the problems that you have when you are unclear as to what the objectives are for demonstration projects, is that it is very hard to project a cost figure because you want to be sure that you project far enough forward so you know what the implications are going to be of these demonstration projects. You can set up, as we with this program, a whole new set of expectations for that 10 percent of the public not reached by demonstration projects, then we can find we are facing a cost of $200 or $300 million.

Mr. **Macdonald.** Yes, but taking pretty much the bread-and-butter issue we have going now, could you come up with a figure that is not what could be done, say, in 10 years or 15 years when better technology has been developed, but come up with a figure that we could kick around up here anyway to see if we think it is too much, too little, or what?

Mr. **Loomis.** We will try, all of us, to get together and come up with a ballpark figure.

Mr. **Macdonald.** My last question about that is this: I was intrigued by the emphasis put on those cameras and stuff. Who determines what is an acceptable piece of equipment that the Government should buy for *these areas, PB or radio stations? Who makes that decision?*

Mr. **Bair.** The individual licensee.

Mr. **Coffey.** HEW sets the standards based upon the Electronics Institute Association's standards for television and radio equipment.

Mr. **Loomis.** That is as to the television camera or other commonly used equipment.

Mr. **Macdonald.** But the standard as to whether it is Sony and incidentally I have seen more Sonys around than American products. If it was going to be a Buy America First, everyone seems to have Japanese equipment.

Mr. **Bair.** Sony has plants in this country.

Mr. **Macdonald.** But it is not exactly what you call an American company either. Anyway, that is something else. It seems to me the FCC has something to say about that.

Mr. **Gunn.** Well, they do when it comes to transmission, that is, if you are talking about a transmitter, they have standards that they require in terms of monitoring.

Mr. **Macdonald.** Are they big brother? Do they lay down the law as to what standards shall be observed?

Mr. **Bair.** We do not feel they are big brothers in that sense.

Mr. **Gunn.** No. They are trying to insure you have quality.

Mr. **Bair.** They are insuring the Federal money is spent on first rate equipment.

Mr. **Macdonald.** And they are the ones who tell you?

Mr. **Bair.** In terms of engineering specifications.

Mr. **Macdonald.** They make the specifications. Working in the field, as I know Hartford Gunn did, and I guess most everyone else does or did, were there occasions that you felt they were out of touch with reality?

Mr. **Bair.** Not in terms of engineering, no.

Mr. **Macdonald.** I am not talking about transmissions but in terms of personnel and equipment.

Mr. **Bair.** This has not been a complaint; no sir.

Mr. **Macdonald.** There is no friction in that area?

Mr. **Bair.** No, sir.

Mr. **Gunn.** I think the stations welcome the standards of both FCC and HEW imposed on them because it is in the interest of the public to assure a really compatible television system.

Mr. **Macdonald.** And they are not artificially high or anywhere near pinchingly low?

Mr. **Gunn.** No sir, not as to FCC electronic standards.

Mr. **Bair.** Could I comment on what you asked earlier in terms of a ballpark figure?

The need for improvement and expansion of station facilities, as illuminated by these two people, is quite clear. It is considerably more difficult, I think, to illustrate the kind of demonstrations which could usefully be undertaken at whatever projected funding levels.

The requests for experimentation and demonstration are not unlike requests for humanitarian aid; it is almost an automatic and usually affirmative response. We think that the grounds for this particular request, however, worthy though it is in general terms, should be carefully analyzed.

We believe that funding for the demonstration section of the program should be fully contingent upon the identification of proposed activities which have plainly stated objectives, which can be known in advance, to which realistic funding intervals and amounts can be assigned and which could be supported by the institutions and people in public communications.

Mr. MACDONALD. Well, you are closer to the people than most people in the program, and by "people" I mean the public, apparently from the title and how much money do you think you could raise for facilities?

It has been suggested that the Government get out of the business a little bit and let you pick up the ball. Is that wishful thinking or is it accurate, or what, or is it an imponderable, which it sounds like?

Mr. BAIR. Let me think.

As Director of Educational Television at the University of North Carolina, I happen to have very happily in the last year received under the educational facilities about half a million dollars to purchase color camera equipment for our studios, and so on.

It was not difficult for me to persuade the administration of the University of North Carolina that the investment of $200,000 by the State of North Carolina would return $600,000 in color equipment by this matching formula.

I have not tested them on a 50–50 proposition. I just have not done it. I think it would be tougher.

Mr. MACDONALD. In addition to going to a university with this sum of money that goes through governmental channels, while I appreciate that, that happens in public broadcasting too, there are many States that contribute to public broadcasting per se.

I am talking about going to the people of the State of North Carolina and saying, "We need more facilities. Will you give us them out of your pockets, not out of tax money?"

Mr. BAIR. Historically, I presume that the response would be: You have always gotten that through appropriations. Go that way. Do it through our representation. I think it would take a long time.

Mr. MACDONALD. "I am not going to give you any, get it out of the Government"?

Mr. BAIR. Yes.

Mr. MACDONALD. Doesn't that make you feel that this argument about getting the Government out of this thing is rather specious; it is one of those battle-flag things to wave around, but does not come down to the nitty-gritty of having an educational TV system?

Mr. BAIR. That is where I would end up now, yes, sir.

Mr. GUNN. Mr. Chairman, I think we underestimate the contribution of the public, either through State or local authorities, or through voluntary contributions.

The Facilities Act does not cover all facilities. It will not buy you land. It will not build you a building.

So I just dug out some figures.

The total capital plant for public television is on the order of $300 million, of which, if my figures are right, only about $100 million or $106 million came from the Facilities Act. So when we say that the Government is putting up 75 percent and the people are putting up 25 percent, we are talking only about those allowable items.

Mr. **Macdonald.** What you are saying is, you would like to see the Government get out of the business and leave it up to the people?

Mr. **Gunn.** No, I am saying this about the public's share being two-thirds to a third for the Federal Government.

Mr. **Macdonald.** I know it would cut down the work of this subcommittee considerably if that were to be the case, and if the people who are doing it feel that the public can do it better, I am all for them.

Mr. **Guinn.** No, Mr. Chairman, all I say is, the public contribution is greater than 25 percent, but on the order of 66 percent.

Mr. **Macdonald.** I never heard anyone say 25 percent. What I am saying is, I think it is very difficult to raise money from the public for anything including multiple sclerosis, cancer, heart research, and everything else.

Mr. **Gunn.** Absolutely.

Mr. **Loomis.** I think it is clearly more difficult to raise it from the public for facilities.

Mr. **Macdonald.** And why I am raising it now is because it was indicated strongly yesterday, it is better to let the individual stand on his own two feet, middle America stand up and do this and do that and get everything put into writing, put the Government on the back burner and let the people do it.

That is a great theory, one I believe wholeheartedly in, one I was brought up by, one I thought was how the Government worked, but it is how the Government should work, but it is not how the Government works.

Mr. **Wirth.** Mr. Chairman.

Mr. **Macdonald.** Yes, I promised first I would allow Mr. Frey.

Mr. **Frey.** I will be quick.

Two things: No. 1, I disagree with you in terms of the ability to raise money on facilities being more difficult.

From raising money in political campaigns, I think you will find it a lot simpler if you tell somebody you are going to raise it for this billboard or this program, as long as there is something specific, and they can see and touch it.

That is a general comment. I am intrigued by Mr. Gunn's suggestion of the 35 percent and the question of percentage, because no matter whether we accept the amount of money you recommended, we are still going to be short of what the need is.

If we go to increasing the coverage, if we go to increasing the radio stations, and many of these things, we will still be short.

What I would like is, when you figure the ballpark figure out, I would also like you to think about it percentagewise in terms of the coverage aspect.

Maybe that is the way to squeeze; maybe instead of 25 or 30 or 33 percent, somewhere along the line if we can get to that additional amount, we could get there.

I don't think 25 should be fixed; but maybe you ought to go either way.

I hope you give thought to that, because I think that is one way to increase your coverage.

Mr. **Macdonald.** We gave them 66⅔ that they had to come up with; that is why it surprises me they find it so easy, because privately they told me that 66⅔ of private money is an awful lot of money to expect them to come up with, but today they are telling me that they will have no problem, and I am delighted to hear that.

Mr. Wirth, I will be happy to yield to you.

Mr. **Wirth.** Thank you, Mr. Chairman.

I am curious, I am sure the subcommittee has been through this a million ways, but are there other ways in which money can be raised?

Back in the early public broadcasting days, a tax on television sets, for example, was discussed, but what other kinds of fund raising programs have been looked at by all of you in the field of public broadcasting?

Mr. **Loomis.** You mean raising funds from the general public? There have been a variety of different methods considered.

I am not talking about dedicated taxes earmarked by the Government, but how you obtain funds from public contributors and concentrated dollar raising activities.

In the 20 years since the first action was taken both the number of stations actively seeking funds and the amount they have been able to raise, have increased substantially. The membership drive has been a very successful tool. Just a couple of months ago, for the first time, there was a national drive that netted more than $5 million and a quarter of a million new members. And there are operations that will become even more efficient.

Every station is showing a good deal of initiative, in devising ways that seem appropriate to the community in which they seek to raise money.

The long-range task force that we set up in 1972 examined at some length a whole host of methods of obtaining financing from the Government through a dedicated tax or a bond issue, or by other means. The task force came back with a matching formula, an approach it felt was the most equitable, reasonable, and feasible way of obtaining Government funding.

Mr. **Wirth.** Do you say they have explored various kinds of ways, dedicated taxes, and so on, there must have been a whole raft of things?

Mr. **Loomis.** Yes. The long-range financing report examined all of those, and I believe we have a copy of that report here. We will give it to you after the hearing.

Mr. **Wirth.** Secondly, we were talking about two different titles for facilities versus demonstrations, and you were assuming that $7 million level in your comments; so would you assume that same ratio, approximately 6 to 1, if there were $12 million, $20 million or $50 million?

Mr. **Gunn.** No, I think we ought to back up on the demonstration program and HEW and the broadcasters and educators and everyone ought to go to work and look at this problem.

No one or no group has come together to look at it in its totality, so we really honestly don't know what the figures should be or the ratio should be.

Incidentally, the bill, as I understand it, does not specify what the ratio is. It is at the discretion of the Secretary, so the Secretary can put $7 million into demonstration projects and zero, I guess in theory, into broadcast facilities.

Mr. **Wirth**. I think we have to make that distinction and come up with that kind of allocation of our best sense from all of us, and I think from the Chairman's question you were going to give us a sense of what it is.

Mr. **Gunn**. Well, until we have stepped back and given you a completely thought out program specifically as to what these demonstration programs will be and what their costs are and implications will be. If we raised expectations of the people in X or Y communities, we could walk, all of us, into a demonstration program that could result in spending hundreds and hundreds of new millions of dollars to meet those expectations.

I am not saying we should.

Mr. **Wirth**. You were saying what your relationship ought to be and what the relationship between demonstration and facilities programs should be.

Mr. **Loomis**. I think one other matter should be brought up.

Mr. **Macdonald**. If you will pardon me, we have a quorum call and both Mr. Wirth and I will be lucky to make it.

I would like to point out to Mr. Wirth as we leave that I heard that promise now since we first put that together about long-range financing, and I have yet to see it.

[Brief recess.]

Mr. **Macdonald**. The hearing will resume. When we left we had left on a note that we left on many times, some of the financing.

We have not heard from radio, and I, for one, would like to hear from you.

## STATEMENT OF MATTHEW B. COFFEY

Mr. **Coffey**. Very good, sir.

I do have my prepared statement, Mr. Chairman, and I believe you also have a copy of a letter from Secretary Weinberger addressed to me of May 29, which I will be referring to in this.

Mr. **Macdonald**. I probably do.

Mr. **Coffey**. We have a copy for you. The immediate short-range priority for the radio service is to reach communities covering at least 90 percent of the population within the 5-year term of this legislation.

Now, what does 90 percent mean in terms of communities? As best we can determine, that would include all communities in the United States which have over 170,000 population.

As this committee is aware, there are 36 of the top 100 markets which are not now covered by the radio signal; and if we have achieved in the next 5-year period coverage of all of those markets, we would increase the coverage of public radio by about 14 percent, or bring it up to close to 75 percent.

We feel that it would take 295 radio stations to reach 90 percent.

There are 176. This means that in order to reach 90 percent, we will have to have 119 additional stations by 1980.

We figure that the Federal share of this will amount to $20 million, to build these stations and that in addition it will cost $19 million to improve existing stations.

Now, the long-range objective, the objective beyond 5 years, is, as we see it, an objective to provide multiple radio services in major markets. This would be similar to the situation we have in Washington where we have three public radio stations serving the community. This goes back to a point I mentioned in the subcommittee before, that in radio we have to fraction the audience up because of the intense competition within the radio field and in order for us to serve more adequately minority and special interests and instructional programing or things of this sort we are required in major markets to have multiple stations available for the public.

Now, I would like to, taking into account the testimony you received yesterday and this letter from Secretary Weinberger, I would like to make same suggestions for amendments in the legislation.

As the Secretary indicates in his letter, HEW has come to the conclusion that the priorities in the bill do not reflect radio's priorities; and while he says it seems very complex to change the language around just for radio, I think his language should at least be included as part of the report language on this bill, so it is very clear.

Mr. MACDONALD. Which section?

Mr. COFFEY. The second and third paragraphs of the letter on the front page which refers to this fact.

Mr. MACDONALD. Well, I read them, but don't see any language in H.R. 4564?

Mr. COFFEY. There is, sir, I don't have the bill with me, but there is a set of criteria or priorities for that.

Mr. MACDONALD. We will get that.

Mr. COFFEY. Fine. The separate set of priorities for radio came out of that 1973 note that you have read into the hearing two times before.

Under or on page 3 under "Criteria for Broadcast Facilities Construction," the paragraph, or subparagraph (d) indicates that the first priority would be a strengthening of the capability of existing noncommercial stations.

Mr. MACDONALD. Just so I am positive, I am following you—page 3?

Mr. COFFEY. Line 17 actually, first priority.

Mr. MACDONALD. "The Secretary shall base his determination as to whether to approve applications for grant under this section and the amount of such grant on criteria set forth in regulations and designed to achieve," et cetera, and what you are saying is, you are satisfied with that language?

Mr. COFFEY. No; I am saying that his letter says that that language does not apply in the case of radio.

Mr. MACDONALD. Why doesn't it say so?

Mr. COFFEY. Because the order of it is reverse of what it would be for radio. His third priority in this language would be first priority for the radio stations.

Mr. MACDONALD. Well, let us read on so I will be sure.

Mr. COFFEY. OK.

Mr. MACDONALD. Well, (1) "a strengthening of the capability of existing noncommercial educational broadcast stations to provide local services".

Well, aren't you included in "(1)"?

Mr. COFFEY. Yes; but if the Secretary makes grants based on that as being the top priority, it would not serve us in this situation.

Mr. MACDONALD. Well, when you go, one, two, three, I don't think it says priority one. I think the three are equal.

Mr. COFFEY. Fine. As long as we have that clarification.

Mr. MACDONALD. Well, we don't have the legislative people here, but I think Mr. Guthrie and Mr. Shooshan, who are on the staff, and our newest member here on this staff also, would agree with me, that, or if they disagree, at least so signify in the usual manner by shaking your head, that one, two and three mean just that there are three parts separate and equal.

Mr. COFFEY. Well, it is helpful to have it cleared because in the regulations that were promulgated in 1973, the 1974 program regulations, the priorities were listed in this order and the intention of the Department was to give the grants in this order, and we had to file a petition to get those priorities changed and they established a separate set of priorities for radio, which reversed the order.

So that is why I am sensitive to it. We have been through it before with HEW. I just wanted to be sure that it is clearly understood that the radio priorities will be different.

Mr. MACDONALD. But you don't feel it needs any change in language?

Mr. COFFEY. No; I don't think this needs any change.

Mr. MACDONALD. You would be contented to have it covered in the report?

Mr. COFFEY. In the report, right. We can make references to the Secretary's letter or just references to that language.

Mr. MACDONALD. Well, let's say factually that one, two and three are noninclusive or nonpriority, that all three are to be given equal weight.

Mr. COFFEY. Right. Fine.

The last enactment of this gives us this situation.

[Mr. Coffey's prepared statement, and the letter referred to, follow:]

## STATEMENT OF MATTHEW B. COFFEY, PRESIDENT, ASSOCIATION OF PUBLIC RADIO STATIONS

Mr. Chairman and members of the subcommittee, since 1967 when public broadcasting began, one of the top priorities of Public Radio has been the expansion of service to "all of the people" as provided for in the Public Broadcasting Act. This remains our top priority as we consider and support H.R. 4564.

There are two elements involved in discussing expansion of the radio service. The first is the provision of the first public radio station to the approximately 49 percent of the population not reached. The second element is the provision of multiple radio stations to serve the many different radio audiences.

The provision of the first public radio service is a clear and obvious objective mandated by the Educational Broadcasting Facilities title of the Act. H.R. 4564 provides a proper legislative vehicle to accomplish this objective and we believe there is now a sufficient policy commitment by the Department of Health, Education and Welfare to complete a program of first service to 90 percent of the population over the next five-year period.

The need is clear. Two hundred ninety-five stations will be required in order to provide a service to 90 percent of the population. There are now 176. Our best estimate of the cost of closing this gap is a $20 million federal commitment to match local money that will be generated to start new stations.

In addition, the staff of the Facilities Program estimates an additional $19 million is needed to upgrade the present equipment of 176 stations so they can better serve their audiences.

Thus, even though there is an HEW policy commitment, the entire $35 million requested over the next five years is still not sufficient to develop the radio system alone. We, therefore, urge your committee to support funding authorizations of $35 million *per year* for radio and television development during each of the five years of the legislation.

In the Subcommittee's recent hearings on financing and in the full committee report, a proper focus was given to minority, special interest and instructional programming. Public Radio does and will continue to serve all these programming interests. In order to properly serve them, however, there is a need in most markets for multiple radio stations formatted for this purpose. At the heart of the need for this type of expansion is an understanding of the different roles radio and television play in our society.

Television is more the mass audience medium with limited competition in the marketplace. It is programmed in half-hour and one-hour segments.

Radio on the other hand generally has a single format throughout the broadcast day. There are all-news formats, easy listening formats, soul music formats, top 40 formats, country and western and even religious formats. Formatting is a result of competition. For example, here in Washington there are 43 radio stations as compared to 6 television stations. This intense competitive situation has caused broadcasters to try to identify a specific segment of the population to serve. All programming is directed to this specific segment throughout the broadcast day.

A growing number of public radio stations are now being formed to program for minority and special interest audiences where that programming does not exist commercially. Because of the wasteful way in which frequencies have been allocated in the noncommercial band, these public stations face difficulty in obtaining frequencies and financing. Some of the funds expended under H.R. 4564 will activate minority and special audience stations. But there are insufficient funds to do enough. Until we have a firm commitment from the Department of Health, Education and Welfare to provide start-up money for second and third radio services, especially those for minority and special audiences, real progress will not be made. H.R. 4564, at the $35 million per year authorization, would improve our chances of making more services available through multiple stations. However, no commitment exists to develop second or third services or stations in markets. Until a commitment is made by the Congress and HEW, the existing stations will continue to serve these needs as best they can.

## RECORDING REQUIREMENTS OF PUB. L. 93-84

Public Law 93-84, the last public broadcasting enactment authorized appropriations to the Corporation for Public Broadcasting with the following amendment:

> Section 399(b)(1) Except as provided in paragraph (2), each licensee which receives assistance under this part after the date of the enactment of this subsection shall retain an audio recording of each of its broadcasts of any program in which any issue of public importance is discussed. Each such recording shall be retained for the sixty-day period beginning on the date which the licensee broadcasts such programs. . ."

The Federal Communications Commission in Docket No. 19861 has asked for comments on the interpretation of this provision and its enforcement.

Based on a survey of the APRS members, only a few now have the technical capability to comply with this requirement of the law. This means that the typical noncommercial licensee must endure from $3,000 to $6,000 of equipment expenditure at present cost. This equipment includes four channel logging recorders with time code generators and tape stock for 60 days.

APRS therefore requested that up to $600,000 for the $15.6 million appropriation for FY 1974 be set aside in a special fund prior to any normal facilities grants being made. The fund would be controlled by the Educational Broadcasting Facilities Program on behalf of the public radio stations. The fund would not be administered under the priorities set forth but under an informal letter application procedure. Stations receiving grants from the fund would be required to submit a letter certifying their need based on the P.L. 93-84 requirement.

The need for the special fund remains great. The average station operates on an annual income of $130,572 with the small budget stations operating on less than one half that amount. The log recorders are needed because of the heavy volume of local programming. During an average week, 107 hours are broadcast and 70 of them are locally produced. Even if the Commission restricts its interpretation to Fairness Doctrine complaints, the licensees indicate that they would have to record their entire output to ensure compliance with the regulation.

The Department of HEW by letter dated March 15, 1974, denied the Association request on the grounds that the authorizing legislation does not provide for a fund for specific purposes.

The need is still very real because we believe the FCC will soon promulgate the rules. We therefore recommend that H.R. 4564 be amended to resolve this problem created for public radio stations by P.L. 93–84 by allowing a special fund for this specific purpose.

### DEMONSTRATIONS

The public radio stations support the provisions of H.R. 4564 relating to demonstrations of new telecommunications equipment as a vehicle for providing health and educational services to the Nation.

Over the past two years exciting experiments have been conducted using two-way radio channels via satellite to provide health information to paramedics in remote areas of Alaska and other areas. The Department's pioneering work in this and other areas deserves support.

We request that the authorizations and appropriations for this entirely new program authority be enacted as a separate title of the Public Broadcasting Act. This is recommended in order to eliminate uncertainties and ratios between facilities and demonstrations.

In a letter of May 29, 1975, the Secretary of HEW discusses the intent of HEW as follows; "Our current intention is to devote approximately $1 million of the available funds to the non-broadcast demonstration programs. . . This amount is to some extent dependent on the total level of funding for the program. If appropriations differ significantly from the amount requested in the President's budget, then a reassessment would be appropriate."

Mr. Chairman, this quotation illustrates the problem. We feel that demonstrations should be a part of this bill but should be justified separately for authorization and appropriation.

### PRIVATE SCHOOLS

One minor amendment provided in H.R. 4564 is very significant to public radio. For many years private schools have been providing valuable public radio service to their communities. We take pride in the services of the Albany Medical College in Albany, New York; American University in Washington and many others that provide valuable public service through their public radio stations. Until now they have been unable, through an oversight, to participate in the Educational Broadcasting Facilities Program. As private schools face declining enrollments and revenues, we face the real threat that public radio services at private schools will be curtailed and encouraging development of new stations will be stifled. The result will be denial of service to the public. We ask the Subcommittee's favorable action on this provision.

### PROGRAM PRIORITIES

The program priorities for disbursement of funds by HEW under the Facilities Program cause no problems for the radio stations as long as the way they are listed in the bill is not their order of importance. Also, in his letter to me, Secretary Weinberger spelled out the Department of Health, Education and Welfare's intention in this area, and I submit his letter for the record. We suggest that the report on the legislation clarify the distinction made by the Secretary in his letter.

### SUMMARY

Mr. Chairman, the public radio stations support H.R. 4564 with the stated qualifications and amendments and we urge its expeditious passage.

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DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE,
*Washington, D.C., May 29, 1975.*

MR. MATTHEW B. COFFEY,
*President, Association of Public Radio Stations,*
*Washington, D.C.*

DEAR MR. COFFEY: I am writing to clarify those aspects of the Department's proposed Telecommunications Facilities and Demonstration Grant Program which specifically pertain to radio.

At the time the bill was prepared, general language was used to cover both radio and television broadcasting facilities. However, the section which provides broad guidelines for priority funding was drafted primarily with television in mind. The Department recognizes that the stage of development of public radio is such that a different set of guidelines for funding priorities is appropriate. Rather than complicate the language of the bill and unduly limit the ability of the program to deal with changing circumstances, it is our view that these differences in funding priorities between radio and television are best handled through the published regulations.

It is the Department's intention to continue a separate set of priorities for radio in the next publication of the Facilities Program regulations which will recognize the need to activate a substantial number of new public radio stations. We will welcome your organization's comments on those proposed regulations.

With regard to the Department's funding plan for Facilities and Demonstrations covering the five years for which we are seeking authorization, our current intention is to devote approximately $1 million of the available funds to the nonbroadcast demonstration programs and the remaining funds to support broadcasting facilities.

This amount is to some extent dependent on the total level of funding for the program. If appropriations differ significantly from the amount requested in the President's budget, then a reassessment would be appropriate.

The Department of Health, Education, and Welfare appreciates your interest in this bill, and we hope that you will find it advantageous to support its passage by the Congress.

Sincerely,

CASPAR W. WEINBERGER,
*Secretary.*

Mr. MACDONALD. I have not heard from anyone else.

Mr. GUNN. I would hope that would not apply to television. That is, we do see a priority for television.

Mr. MACDONALD. Right.

Mr. GUNN. And that is valuable.

Mr. MACDONALD. Well, the language is not going to be changed, the report would only refer to "radio" and therefore would not affect "TV."

Mr. GUNN. Fine.

Mr. COFFEY. Fine. Now, in the last enactment, P.L. 93–84, which was passed 2 years ago, a new provision was made for a recording requirement, the so-called Griffin amendment, which was introduced into the legislation. That amendment would require that the radio station do this.

Mr. MACDONALD. Well, that is Senator Griffin.

Mr. COFFEE. Yes; Senator Griffin proposed an amendment. That amendment would require that public broadcasting stations record all programs that involve controversies and maintain the tapes of those programs for a period of 60 days.

That requirement, when we faced up to the reality of it, we found that the local stations didn't have the capacity to record that material.

Mr. MACDONALD. Strangely enough, I remember that argument, and I thought at the time, but you can refresh my recollection, it fell of its own weight that there were not that many controversial programs, and therefore it would not occupy that much space. Is my memory faulty?

Mr. COFFEY. Well, we are facing, in docket 19861 at the FCC, which is the promulgation of the rules for this, and interpretation of it.

Now we feel that the interpretation is going to put the radio stations, which, as you know, have a great deal of local programing, of controversy, because they tend to cover the city councils and local governmental bodies in a position of having to record virtually their entire output—just as a caution to make sure that they have in fact covered themselves.

The point here is that when we surveyed the radio stations we found that almost none of them had the log recording equipment necessary to accomplish this. We approached HEW and asked that they create a special fund for the purpose of meeting the requirements of Public Law 93-84, and that that fund, in the amount of some $600,000, be set aside for the specific purpose of providing log recording equipment to meet this Federal requirement. HEW indicated to us in 1974, that they were unable to create a special fund because they did not have an authority for that within the authorization bill.

I would suggest to the committee that the need is still here. Most of the stations still do not have that capability to record and I would hope that some language can be worked out to allow HEW, in this particular instance, to create a special fund for the purpose of providing this single piece of equipment to the existing stations.

Mr. MACDONALD. In other words, what you would be asking for is just one additional piece of equipment?

Mr. COFFEY. That is correct.

Mr. MACDONALD. That is to record controversial matters?

Mr. COFFEY. That is right.

Mr. MACDONALD. And what is an average cost on that?

Mr. COFFEY. Those range from $3,000 to $6,000 apiece.

Mr. MACDONALD. And how many stations are there?

Mr. COFFEY. There would be about 150 stations that would need that.

Mr. MACDONALD. I will let you do the mathematics. What does it come out to?

Mr. COFFEY. Roughly, $585,000.

Mr. MACDONALD. Half a million dollars?

Mr. COFFEY. Right. I would say here is a particular case where an enactment has created a burden for a piece of equipment. Rather than require the stations to fill out what is now an almost 40-page form and raise 25 percent of the money locally to match with the 75-percent Federal share, we should establish some procedure that would be less formal, which would allow this particular piece of equipment to be available.

Mr. MACDONALD. Have you discussed it with HEW?

Mr. COFFEY. Yes.

Mr. MACDONALD. What is their reaction?

Mr. COFFEY. Really, their reaction is represented in their letter that, unless the authorizing legislation is changed, they cannot do it.

Mr. MACDONALD. Where would you like to see it changed?

Mr. COFFEY. I don't have specific language drafted but will be happy to work it out.

Mr. MACDONALD. Will you get it up here with staff and we will see whether or not it can be done?

Does the other section of public broadcasting have any comments about it?

Mr. GUNN. There is no question it is an expense. I think it is one that many of our stations have already gone to, to provide this recording ability. It is less burdensome, I think, on television than it is on radio, because television broadcasts fewer hours, and at the moment is taking more of its programing from outside sources which do that logging for them so that they do not have a great burden on them. But for some small stations, we have such a situation.

Mr. **Macdonald.** Aren't you told to maintain records of various programs for certain lengths of time anyway?

Mr. **Gunn.** They have to retain logs for a certain length of time. They don't have to retain the recording itself as required under the given amendment, which is recording of controversial matters.

Mr. **Macdonald.** I thought if you wanted to share a program, it has been in my experience, I have not utilized the facilities very often, but I know once or twice, maybe three times, I have used it, I have always been able to get back a record.

Mr. **Gunn.** Certainly, any program we distribute through the PBS system, we do keep records of them and a recording.

Mr. **Coffey.** I think a lot of people retain them just out of protection for themselves.

Mr. **Macdonald.** It is protection?

Mr. **Coffey.** Exactly.

Mr. **Macdonald.** Did you make the argument to HEW that you should not be penalized for paying the salaries of those people who would have to go through the logs that they make you keep?

Mr. **Coffey.** No, sir.

Mr. **Macdonald.** Well, I wonder how much that would come to?

Mr. **Coffey.** Well, they would still have to maintain the logs, despite the fact you have this solution.

Mr. **Macdonald.** But they don't have to go through them if unrecorded.

Mr. **Coffey.** Well, the log would really just be an index to the tapes.

Mr. **Macdonald.** Well, what you are saying is, it would not cost much money.

Mr. **Coffey.** Right.

Mr. **Macdonald.** That is a very fair point.

Mr. **Coffey.** Commenting on other sections of the bill, first, on what we consider for public radio a very important provision in the bill, the inclusion of private schools in the program for the first time.

We have felt that the resources of private schools have really not been explored sufficiently in this whole area of radio.

Mr. **Macdonald.** How do you define "private schools"?

Mr. **Coffey.** I would define it as "absence of public support." In other words, that it is education supported by nontax sources: so for example, American University here in town, which is not a tax-supported institution but which runs a public radio station.

Mr. **Macdonald.** Right. Well, how about, not that I am keen on getting into an argument, because I have heard it from so many different sources, but after splitting, Congress, in its wisdom, passed a law that granted certain specific tax-paid information science programs to parochial schools.

Mr. **Coffey.** Yes.

Mr. **Macdonald.** And under your definition, are they tax supported or non-tax supported?

Mr. **Coffey.** They would be non-tax supported.

Mr. **Macdonald.** Even though they were in this situation?

Mr. Coffey. Even though they were at some point tax supported or had a special program.

I mean, if you look at Harvard University, for instance, it is a private school, as far as I am concerned, although they get considerable governmental funds for research activities and things of that sort.

Mr. Macdonald. They don't get as much as they used to.

Mr. Coffey. Yes; but I think it is an important area of American education we have ignored and that it would be very appropriate to have them contribute their resources to public radio. Some of them are doing it to date and are very good examples of public radio stations.

On the subject of demonstrations, I agree with the demonstrations program. We have discussed it in our APRS Board of Directors and feel that really the demonstrations being included in this bill, gives us the first opportunity to really look at some of the new technology.

Now, in the Secretary's letter to me, he indicated that they were seeking approximately $1 million a year, as I understand it.

I have had several conversations with people at HEW concerning this, the indication being that they would be satisfied to get that amount of money because they think it is going to stimulate considerable private investment from the health science area, from the social services area, which will make some of these demonstrations happen.

I think we have had some successful examples. Mr. Law talked about some yesterday. I think that the examples of the use of radio, for instance, in Alaska, in medical care, is compelling. In communicating with the paramedics on how to handle a patient until he gets to the hospital, and in other ways these are valuable things to demonstrate.

So I really look at this amount of money, if it is going to be $1 million a year for each of the 5 years as being seed money, as being venture money and money that we should not try to look at too carefully. We should not try to have all of the projects laid out in advance because it may miss some opportunities for us, particularly I think that is true in the social service area.

Mr. Macdonald. Well, from what your testimony has been so far, Mr. Coffey, I take it you are perfectly satisfied with your prearrangement with HEW?

Mr. Coffey. Well, let me make two comments about it:

In terms of the resources, I think that it is necessary that the money be increased to $35 million per year as a minimum.

Mr. Macdonald. $35 million per year?

Mr. Coffey. Yes, for the facilities portion of the program. I think unless we do that, we are really begging the question.

Mr. Macdonald. We cannot leave out money for demonstration projects, you just spoke of so highly?

Mr. Coffey. I think the demonstration projects should be included in this legislation, but as a separate title.

Mr. Macdonald. How much?

Mr. Coffey. Up to $1 million a year as the Secretary indicated, was his intention.

Mr. Macdonald. If you take that view of the Secretary's memorandum that says, "I don't want regulations that give first priority to new stations," where does that leave demonstration programs?

Mr. Coffey. No, I am talking about this, sir.

Mr. Macdonald. Something else?

Mr. Coffey. No, I am talking about this letter to me.

Mr. Macdonald. I am talking about—well, they are both supposedly written by the same man.

Mr. Coffey. Same person, yes.

Mr. Macdonald. How do you read one vis-a-vis the other?

Mr. Coffey. I think passing of time is the only way you can read them.

Mr. Macdonald. Unfortunately, he is not even going to pass time, he is going to phase out; isn't he?

Mr. Coffey. That is my understanding, yes, sir.

Mr. Macdonald. That is one reason I always don't like to see things just left up to the discretion of various Secretaries because Secretaries come and Secretaries go, and the law doesn't very often. Many come, but most of them stay that prove of any worth at all. But you still would rather have his word than have it in a regulation?

Mr. Coffey. No, no.

Mr. Macdonald. In a bill?

Mr. Coffey. No, I would like to have the demonstration money in the bill, but at the $1 million level as a separate and specific amount of money.

Mr. Macdonald. So in your ballpark, it would be a total of $35 million a year?

Mr. Coffey. A year, yes, sir; that would be my view. That is my estimate of the minimum for that amount of money.

Mr. Macdonald. And how many radio stations do you have?

Mr. Coffey. We now have 176.

Mr. Macdonald. And how many new facilities did you have?

Mr. Coffey. Over this 5-year period, we will be asking for this year?

Mr. Macdonald. How many did you ask for in fiscal 1975?

Mr. Coffey. There were approximately 70.

Mr. Macdonald. About 70 new ones?

Mr. Coffey. Right.

Mr. Macdonald. And how many did you receive funding for?

Mr. Coffey. We have not received funding as of yet because of the delays, which is the second part of my statement.

Mr. Macdonald. How many do you anticipate? I am asking about fiscal 1975 which is running out.

Mr. Coffey. I would expect they would grant approximately 30 awards.

Mr. Macdonld. So more than half of yours are going to get turned down?

Mr. Coffey. Yes, sir.

Mr. Macdonald. And the main reason they are going to get turned down is HEW is going to tell you they don't have enough money.

Mr. Coffey. Lack of resources.

Mr. Macdonald. What do you think when HEW only wants to ask for $1 million for demonstration programs and $7 million per year?

Mr. Coffey. It should be $34 per year.

Mr. Macdonald. Per year?

Mr. Coffey. Per year. So it would be $35 million for each year of the legislation.

Mr. MACDONALD. And that would do you fine?

Mr. COFFEY. That will do us fine.

Mr. MACDONALD. You are speaking not just for yourself but for the public broadcasting radio stations?

Mr. COFFEY. I am speaking for the radio stations and I think Mr. Loomis' testimony reflected $35 million a year as being the CPB recommendation also.

Mr. MACDONALD. Well, when I asked him for a figure, he said he would have to get it together, unless my memory has evaporated in the last hour.

Mr. COFFEY. Well, I thought that was in his testimony.

Mr. MACDONALD. Why would he have to get it together if he had it?

Mr. GUNN. I think he was referring to the demonstration project which you were inquiring about.

Mr. MACDONALD. I am talking about how much money you want for the bill.

Mr. GUNN. That is right. So I think it has to be rethought with the demonstration activity as a distinct item to be examined.

Mr. MACDONALD. I thought you indicated, I was told yesterday for the first time, 6 to 1?

Mr. GUNN. The ratio is not in the bill.

Mr. MACDONALD. It is not any place. I think it is in somebody's head at HEW.

Mr. COFFEY. They talked about many ratios with us.

Mr. MACDONALD. My point is, and I hope I am not tiring of the whole subject, but I am getting a little tired of trying to help you people out in getting money I think you need and you telling me you don't need it. I am not about to tilt at a windmill. If you don't need the money, it is the best news I ever heard.

Mr. COFFEY. We need it very much.

Mr. MACDONALD. I don't have to ask anybody for it. I don't have to do anything. If you are happy with the money you are getting, fine. HEW is happy to give it to you; you have no problem, right?

Mr. COFFEY. No, sir. I am saying we are not happy with the amount of money and we want the money increased.

Mr. MACDONALD. By how much?

Mr. COFFEY. By $35 million per year for each of the 5 years of the legislation so that it would be increased by approximately $28 million a year over what HEW requested in their bill.

Mr. MACDONALD. Well, $28 million a year or $28 million for the 5-year funding?

Mr. COFFEY. A year.

Mr. MACDONALD. Well, sir, I have not ever been accused of being bright at figures. $28 million for 5 years is $140 million.

Mr. COFFEY. Yes, sir.

Mr. MACDONALD. That is your ballpark figure?

Mr. COFFEY. Yes, sir.

Mr. GUNN. Our ballpark for television, exclusive of demonstration and exclusive of radio, is approximately $45 million a year average for a total of about $237 million.

Mr. MACDONALD. So you would like $237 million?

Mr. GUNN. Yes.

Mr. MACDONALD. And the demonstration programs are orphans in the wind?

Mr. GUNN. No.

Mr. MACDONALD. Not twisting and twisting with the wind but they are just out there.

Mr. GUNN. Well, we came out in response to Mr. Wirth's question. We promised to come back with our best estimate of what that program should be.

Mr. MACDONALD. But, as of now, you would like, this is both of you together?

Mr. COFFEY. Right.

Mr. MACDONALD. Would like $367 million more?

Mr. COFFEY. No. I think it is a range we are talking about. I am on the low end of the range, and he is on the high end of the range, the low end being $175 million and the high being what?

Mr. GUNN. $220 or $237 million.

Mr. MACDONALD. How do we determine the amount is what I am asking all of you.

Mr. COFFEY. Well, I think it is pick a number in the range. Unfortunately.

Mr. MACDONALD. Well, what number do you pick?

Mr. COFFEY. I would pick the $175 million for the bill for the 5-year period.

Mr. MACDONALD. What number would you pick?

Mr. GUNN. I think we would like to take the $237 for the 5-year period and add whatever radio advises that they need to do the job they want to do. We have very specific things that we think can be done in a 5-year period for public television.

Mr. MACDONALD. I must say, in all honesty, although perhaps unfairly, this is not the greatest economics of putting together figures to be asked for from a congressional committee that I have ever seen or heard, but maybe that is because we sprung it on you, I don't know. But I would think that you would not be sprung on from left field. I would have thought you would have had something in mind.

Mr. COFFEY. Sir, it is my understanding we were going to ask for $35 million per year, but apparently that is not the understanding of all of the members of public broadcasting.

Mr. GUNN. That was not understood by me. That is why I can't respond today, but we will provide you with our joint recommendations shortly.

Mr. MACDONALD. Who had you communicated with? Well, I won't go into it.

I don't know, but it seems to me you don't present a very well-organized figure because I am not going to have months to do this.

Mr. COFFEY. That is agreed to.

Mr. MACDONALD. And you have a rather hostile OMB, I think, maybe not personally hostile.

Mr. COFFEY. I agree with you.

Mr. MACDONALD. Or anything like that, but they didn't give any great indication to the subcommittee yesterday that they felt all of this was a great idea or money well spent.

Mr. COFFEY. Right. I agree with you, I think they are not very supportive of the program and that is why I think we have this situation.

Mr. MACDONALD. Well, the only way you will get support is to give yourself some support.

Mr. Coffey. Right.

Mr. Macdonald. We are not going to convince them. You have to do what you can.

Mr. Coffey. Right.

Mr. Macdonald. Does anyone have anything more?

Mr. Coffey. I would like to address one item, Mr. Chairman, and that is on the subject of depreciation which was brought up yesterday.

Because of the nature of the radio stations—the vast majority of them are university-based—they do not have, in most cases, under State law, the authority to accumulate money for depreciation.

I think that the statement that was made yesterday by HEW was that the depreciation should not be funded out of this program. This statement is one that really ought to have a lot more study before a determination is made as to how to handle it.

Congressman Brown referred to it today. He may have a good idea, that we may want to say: All right, now that the program is 12 years old, how are we going to handle depreciation because equipment is wearing out and what is the Federal role in depreciation? But I think to just cut off the program and say, "No depreciation should be funded in it," is really shortsighted on the part of the Department.

That completes my statement, sir.

Mr. Macdonald. Do you have anything further?

Mr. Gunn. No, sir.

Mr. Macdonald. Have you?

Mr. Bair. No.

[Mr. Bair's prepared statement follows:]

### Statement of Dr. George E. Bair, National Association of Educational Broadcasters

Mr. Chairman and members of the Committee, I am Dr. George E. Bair, Director of the University of North Carolina Television System, a member of the Board of Directors of the Public Broadcasting Service, and member of the Board of Directors of the National Association of Educational Broadcasters. It is in this latter capacity that I appear here today. The NAEB is the national professional society whose membership consists of individuals engaged in or concerned with educational and public telecommunications. With approximately 3000 individual members, representing a variety of related vocations in all forms of communications media, ranging from managers, producers, graphic artists, and engineers, to journalists, educators and administrators, the NAEB is dedicated to the goal of providing professional services to individuals and their institutions in the entire field of public telecommunications.

Formerly, in addition to its role as the professional society for individuals and institutions, the NAEB had been the national voice and representative for public television stations and public radio stations throughout the country. As the result of a reorganization of national organizations, direct representation of public television and radio stations now resides in other groups who are also testifying before this Committee. The NAEB is now enabled to concentrate its attentions upon the individual within the telecommunications professions. Through professional development services, publications and informational clearing houses, research and planning services, seminars and conventions and other means, the NAEB seeks to advance the dissemination of knowledge, information and education by public broadcasting and telecommunications to the end that the benefits of electronic communications may be extended to all persons, and current and developing communications technologies may be more fully utilized.

With these broad missions in mind, the NAEB has studied with care H.R. 4564, "The Telecommunications Facilities and Demonstration Act of 1975". The NAEB supports the principles and the broad outline of this proposed legislation, and, with the modifications which are described below, the NAEB urges favorable action upon the bill.

H.R. 4564 describes two basic funding programs: (1) the extension of direct support for public radio and television broadcasting facilities for a five-year period, with emphasis upon "the adaptation of existing noncommercial educational broadcast facilities to broaden educational uses", and (2) the promotion of demonstration or "nonbroadcast telecommunications facilities and services for the transmission, distribution, and delivery of health, education, and social service information". The NAEB will discuss each of these funding programs separately below.

With respect to the *telecommunications facilities program*, the NAEB strongly supports extension of public broadcast facilities funding for a five-year period. However, a prime deficiency in the bill is the administration's unrealistically low funding level, which proposes $7 million a year for five years, for a total of only $35 million dollars. Detailed statistics submitted by CPB, PBS, NPR and other public broadcasting groups demonstrate clearly that broadcast facilities funding for the next five years must be substantially higher if the goals of facilities legislation, from 1962 onward, are to be achieved. The history of the public broadcasting facilities program over the last dozen years has been an extraordinarily successful one. The dollars expended in facilities programs have significantly increased the number of public radio and television stations which have become operational. This program has likewise resulted in substantial improvements in power, coverage and operational characteristics of existing public broadcast stations. The matching fund formula which has been built into the program has assured that large amounts of State, local, and private funds have been dedicated to public broadcasting in return for Federal funding. Through the amalgam of Federal and matching funds, the American public has benefitted through an expansion in the total number of public broadcast outlets, through an enhancement of the technical and production capabilities of these facilities, and through an attendant improvement in the cultural, educational and instructional programming provided by these stations. The Federal Government's participation in the facilities program has been a high yield investment that is still paying substantial dividends to the public.

But the goals of the facilities program are still far from fulfilled. Many people and many sections of the country are still outside the coverage of public radio and television. A realistic goal is that at least 90% of the population can receive an adequate signal from a public radio and television broadcast station. There is a continuing need for more transmitters and towers and technical hardware, for increases in power and the extension of broadcast service, for modernization and overhaul of studio and production and related facilities. The NAEB believes that the funds to be allotted to the facilities program for the next five years must be increased substantially above the $7 million annual figures proposed by the administration, so that existing operations may be maintained and improved, and new operations by public radio and public television broadcasters may be encouraged.

Increased Federal funding is also needed, in the NAEB's opinion, to permit effective implementation of the new thrust of the facilities program, which seeks to foster broader telecommunications usages by public broadcast licensees. The new title for Subpart A of Part IV of Title III of the Communications Act, which in the past has referred only to "Grants for Facilities", would under the proposed legislation appropriately refer to "Telecommunications Facilities". And among the criteria for approval of grants under this legislation would be the extent to which the applicant has achieved "the adaptation of existing noncommercial educational facilities to broaden educational uses." This new criterion for grants seems clearly designed to help public broadcast stations toward becoming telecommunications centers by extending equipment eligibility to include items not required for broadcasting but capable of extending and strengthening its benefits.

The NAEB believes that these proposed modifications in the facilities program are sound and worthwhile. They recognize that it is no longer necessary to endure the limitations of single-channels in providing services to the public. They encourage experienced public broadcasters to see themselves as the nucleus around which broad-based public communication services and capacities can be developed wisely and efficiently. The NAEB has for many years urged public broadcasters to take pioneering roles in these areas by expanding their stations—from one-channel distribution systems—into Public Telecommunications Centers for the design and production of educational, instructional, and cultural materials to be carried to home or school by whatever electronic delivery systems are most suitable. Such a public telecommunications system, centered upon the public broadcast licensee, would employ, in addition to broadcasting, other distribution techniques. Such a telecommunications center would establish itself as *the* local publicly responsible mechanism for the professional planning and execution of projects designed to accomplish significant instructional and social tasks in the community, state or region. The NAEB is convinced that, for economy, efficiency, and effectiveness, public educational telecommunications systems must be founded upon concepts of interrelated communications functions performed through integrated telecommunications structures.

By emphasizing the adaptation of existing public broadcast facilities to wider uses, the proposed legislation will also provide a healthy stimulus to innovation and diversity by public broadcasters. As Federal licensees, these broadcasts are committed to ascertain and seek to serve the many needs and problems of their communities and coverage areas. Telecommunications centers will provide these broadcasters with the diversity of tools needed to serve the diversity of interests and groups in their areas. This expansion of communications techniques by public broadcast licensees will thus parallel their current efforts in the ascertainment process, and will hopefully afford a new dimension in services responsive to ascertained problems and needs. Moreover, the diversity in communications tools to handle varying needs has an additional advantage, inasmuch as the ability to serve specific new audiences through specific techniques geared to their needs and interests provides increased opportunities for local funding sources. As such, expansion into telecommunications by public broadcasters can represent a significant economic as well as programming extension of the Federal investment in facilities.

A number of local, state and regional educational telecommunications systems are now in various stages of development. Educational institutions, public broadcasters, state telecommunications authorities, and regional and national associations in the telecommunications field are all actively working to advance these concepts of wise utilization of scarce frequency space through integrated telecommunications systems. A number of public broadcasters now successfully operate more than one public radio and/or public television system. Other public broadcasters, such as the television outlets in Las Vegas, Nevada, and Cleveland, Ohio, are proving that the marriage between public television and Instructional Television Fixed Service (ITFS) facilities can result in significantly greater instructional channel utilization and wider variety in program format.

The NAEB believes that the proposed legislation will serve to promote the rapid development of these telecommunications activities by public broadcasters. The NAEB supports these provisions, and urges this Committee either in the legislative history or in the language of the bill itself to make clear through appropriate illustrative examples the range of telecommunications tools, from ITFS to cable, that broadcast licensee may utilize "to broaden educational uses" of public broadcast facilities.

With respect to *telecommunications demonstration programs*, the NAEB favors this new approach in Federal funding. However, it believes that clarification is needed regarding the nature and extent of the demonstration programs, and the proportionate share of funding to be allocated to demonstration programs.

According to the declaration of purpose in proposed Section 390 of the Act, the demonstration programs are aimed at the development of "the use of telecommunications technologies for the distribution and dissemination of health, education and other social service information." The same description of the goals of demonstration programs is contained in proposed Section 392A. While the NAEB believes that the described objectives encompass worthy services, nonetheless it believes that the legislation or the legislative history should explain that these described services encompass the entire range of instructional, cultural, and informative programming services now provided over existing public broadcast and nonbroadcast facilities.

Section 392A provides that grants and contracts may be made "with public and private non-profit agencies, organizations, and institutions for the purpose of carrying out telecommunications demonstrations". It is to be noted that grants for facilities programs (including telecommunications features "to broaden educational uses") will continue to be available for non-commercial public broadcasting licensees, and that public broadcasters will *also* be able to apply for telecommunications demonstration program grants. Accordingly, public broadcasters will be encouraged through both portions of the proposed bill to explore and utilize innovative telecommunications methods and techniques.

The proposed bill states that "nonbroadcast telecommunications facilities" include, but are not limited to, cable television systems, communications satellite systems, and other transmission methods. Although this definition of telecommunication demonstration facilities is admittedly not an exhaustive listing, nonetheless the NAEB believes that it would be useful if the legislative history would articulate representative transmission methods other than cable and satellites, such as low-cost audio and video cassettes, the sub-channel capacity of FM stations, ITFS, computer data and print-out techniques. In this way, the broad scope of innovative technologies to be studied under the demonstration programs will be underscored. The NAEB believes also that demonstration programs, at least during the initial history of this legislation, should concentrate upon projects which have the promise of long-range benefits to the public service communications systems, and which have realistic prospects for practical implementation once the demonstration stages have been completed.

Finally, it is essential that the bill, through its specific language or through its legislative history, should outline the proper ratio of fund allocation between the facilities and demonstration portions of the proposed legislation. By far the greater proportion of funds should be apportioned for the facilities program, to enable public radio and television broadcasters to maintain and improve and extend over-the-air service across the country. The immediate priorities therefore lie with the facilities program. Various ratios have been suggested, including a 10:1 ratio of facilities to demonstration portions. While the exact determination of the ratio is important, it is equally important that a ratio should be reached, so that intelligent planning both for facilities programs and for demonstration programs may proceed.

With the limitations and comments noted above, the NAEB is pleased to support both portions of the proposed legislation. In light of the varied distribution techniques available today or on the immediate horizon, it is no longer necessary or even appropriate for the broadcast transmitter to be the exclusive nucleus for public communications service. The adoption of these new technologies will bring a profound change in institutional behavior. No longer need we think in terms of broadcast stations transmitting standard programs, but rather in terms of public communications agencies utilizing a variety of interrelated transmission modes and means. This enhanced capacity will permit extended services to an even wider range of educational and cultural purposes, and a closer engagement with a broader spectrum of community forces and institutions. The Telecommunications Facilities and Demonstration Act of 1975 has enormous potentiality for development of such public telecommunications centers. If enacted with appropriate increased Federal funding levels, and with reasonable ratios between telecommunications facilities and telecommunications demonstration programs, this bill could well be a landmark in legislation as significant as the Educational Television Facilities Act of 1962 or the Public Broadcasting Act of 1967.

Mr. MACDONALD. Thank you, gentlemen, very much, and I would add one note, neither of caution or anything else. I would get cracking at it as soon as I can if you expect anything to happen.

Mr. COFFEY. We will, sir.

Mr. MACDONALD. Thank you all very much again.

This concludes the hearings.

[The following statements and letters were received for the record:]

## STATEMENT OF THE JOINT COUNCIL ON EDUCATIONAL TELECOMMUNICATIONS

### INTRODUCTION

The Joint Council on Educational Telecommunications (JCET) is a twenty-five year old consortium of national and regional, nongovernmental, nonprofit educational organizations; its membership includes many of the leading organizations in education and in public broadcasting such as the American Council on Education, the American Association of School Administrators, the National Education Association, the Corporation for Public Broadcasting, the American Library Association, and the National Association of Educational Broadcasters.

The JCET wholeheartedly supports H.R. 4564, The Telecommunications Facilities and Demonstration Act of 1975, with only two reservations: first, that the level of funding is seriously deficient if the purposes of the program are to be advanced even moderately; and second, that the legislative history, if not the language of the statute itself, should make clear the proportion of funds authorized for each portion.

### THE FACILITIES PROGRAM

With respect to the first of these concerns, JCET associates itself with the exhaustive research submitted in these hearings by the Corporation for Public Broadcasting and others, which illustrates the true funding needs necessary to achieve the original purposes of the Facilities Program. The JCET recognizes that the realization of 100% saturation of public broadcasting signals—radio and television—throughout the country is impracticable. But we urge that a reasonable saturation of 85 to 90%, which *is* within practicable range, should be the program's goal. Demonstrably, that goal has not been reached.

The JCET was among the leaders in urging enactment of facilities legislation in 1962, and recalls that the first five-year funding appropriation for the program was $32 million. Over the coming five years, the demand for the establishment of new stations and the upgrading of existing ones in pursuit of the goal of 85–90% household coverage makes the presently-budgeted $35 million wholly inadequate, not only in terms of the total numbers of dollars, but equally in terms of relative buying power of 1962/66 dollars vs 1975/80 dollars. The research referred to above makes manifest that the Administration's $7 million per year will not even permit the maintenance of current levels of operation; thus, system obsolescence will increase, and new areas of service will be developed with painful slowness, results threatening the vitality and viability of the whole public broadcasting system.

The application of Federal and local funds, the dedication of thousands of talented educators, administrators and broadcast professionals, the clearly-developed bank of programs as well as the potential for thousands more in the years to come—all these represent an investment which must not be jeopardized. JCET urges the funding of the Facilities Program over the next five years in annual increments which will permit not merely maintenance of the system at its present level, but will insure its growth and improvement to the maximum practicable extent and efficiency.

### THE DEMONSTRATION PROGRAM

The JCET's second concern is directed to that proportion of available funds to be allotted to the demonstration program. We believe that this program must be adequately funded, but that the far greater share of funds must be allotted to the facilities program. We urge that the legislative history make this clear, even to the extent of suggesting appropriate ratio between the two. JCET's reservation in this regard is not intended to diminish its enthusiastic support of the demonstration project. Indeed the nature of JCET's mission is intrinsically linked to such a program. For example:

> JCET is currently acting as secretariat to, and was instrumental in the founding of, the new Public Service Satellite Consortium, a nonprofit corporation the purposes of which include: arranging for and promoting the shared use of satellites and other communications capabilities as delivery mechanisms for health, educational and other public services; assisting in coordinating the telecommunications planning activities of public and private institutions and agencies; providing a mechanism to identify and aggregate potental users; acting as the latter's agent in arranging communications services on a cost-sharing basis; and developing practices encouraging the experimental uses of new telecommunications services.
>
> JCET is co-sponsoring (with the University of Mid-America, the Federal Interagency Committee on Education and the Council for the Progress of Nontraditional Studies) a major National Conference in June to explore the opportunities and challenges of open learning systems, nontraditional study programs and the role of new technologies in the open learning process;
>
> JCET, in its role as interface between the educational community and the government's involvement through the National Aeronautics and Space Administration in communications satellite development and experimentation, is also co-sponsoring (with the American Institute of Aeronautics and Astronautics and the Department of Medicine and Surgery of the Veterans Administration) a conference in Denver in July to provide an exchange ideas between designers of communications satellites and those concerned

> with their potential for health care, education and other public service uses. Further, the JCET has been intimately involved with the development of, and reporting on, the satellite technology demonstrations in the Rocky Mountain and Appalachian areas as well as the medical education experiments in Washington, Alaska, Montana and Idaho, which until May 20th were being conducted via NASA's ATS-6, -3 and -1 satellites.
>
> JCET also works with such organizations as the National Television Association, PubliCable (a consortium of organizations and individuals concerned with public service uses of cable technology) and The Public Broadcasting Service, the Corporation for Public Broadcasting and other elements of its own membership in exploration of the application of all communications technology and techniques to the needs of education and public service.

It is clear then that JCET's support of a program to employ Federal monies to fund demonstrations and experiments designed to explore the effectiveness of communications technology in furthering public needs is wholehearted. Broadcasting, effective as it has proven in the broadening of educational and cultural opportunities for a large portion of the American people, cannot alone serve all the needs of formal and informal education, and of other social services. For these multi-*purposes* multi-*channels* are needed; old patterns and modes of distribution no longer serve, and the single transmitter serving a single public at a singular time cannot achieve the variety of results which our increasingly-complex society demands. Already, for example, educators concerned with the administration of that innovative experiment in open learning, the British Open University, are complaining that the single television channel available for the distribution of its courses is inadequate to handle its traffic.

New voices are being heard, crying out for new solutions: The recent report to CPB by its Advisory Council of National Organizations on *Public Broadcasting and Education* includes among its eleven recommendations: "The CPB should * * * (Rec. 6) actively develop the educational programming applications of related technologies, in order to meet the educational needs of people at all age levels; and (Rec. 7) assure * * * an effective program of research, evaluation and demonstration regarding educational applications of public broadcasting and related technologies * * *." In support of these recommendations, the report went on to say:

"It is appropriate * * * to look toward an eventual system in which public broadcasting stations serve a core function but which includes the capacities of multi-channel cable, low-cost audio and video cassettes, the sub-channel capacity of FM stations, further use of the Instructional Television Fixed Service, and other mechanisms as they become feasible. Multiple networks based on satellite technology are not only possible but also likely; experimentation is already underway."

The foregoing evidence of JCET's support for the demonstration program contained in the present bill, however, is not intended to urge that the majority of funds authorized or appropriated be directed to that program. The clear evidence that others' research will submit to the subcommittee argues conclusively that the extension and strengthening of the nation's public broadcasting system has first priority. This is particularly true in the light of the limited funds which will probably be available during the early years of the five-year funding contemplated by the legislation, even though it is hoped that the Congress will increase the $7 million presently identified in the Administration budget. Furthermore, it may take some months for the responsible authority charged with activating demonstrations to organize procedures and identify significant projects. The purpose of the demonstration section of the subject bill is to light the way to exemplary uses of technology in the furtherance of educative and welfare purposes; the paths thus illuminated must be travelled by regional, state and local authorities with only incidental help from Federal sources.

JCET suggests therefore that either in the legislation or the legislative history, a ratio be established between the two sections of the bill, with the larger proportion of funds assigned to the broadcast facilities program and the smaller to the demonstration portion. This ratio should apply to all five years of the bill's life.

## SUMMARY

In summary, the JCET believes that the two sections of this legislation are complementary and appropriate and that, on balance, the two represent a significant extension of the facilities program which can do much to guarantee not only the availability of public radio and television signals to the maximum practicable number of the country's households, but also to contribute significantly to the development of a sound, forward-looking public policy in terms of telecommunications policy and practice.

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## STATEMENT OF THE LOUISIANA EDUCATIONAL TELEVISION AUTHORITY

**Re: *H.R. 4564, A Bill to Extend the Educational Broadcasting Facilities Program.***

The Louisiana Educational Television Authority ("LETA"), P.O. Box 44064, Baton Rouge, Louisiana, favors extension of the Educational Broadcasting Facilities Program ("EBFP"), but urges that H.R. 4564 be amended to correct what we perceive to be two principal weaknesses of the Bill: (i) the funding level ($7 million) is less than half that of some previous years and should be increased to at least $15 million and (ii) section 4, which gives preference to applications for upgrading existing non-commercial broadcast facilities over proposals to activate new stations even where the population to be served lacks any noncommercial service. These changes are necessary to ensure that the progress that has been made in public broadcasting does not stop at the present level of stations and populations served.

LETA was established in 1971 by the Louisiana Legislature for the purpose of providing a complete statewide network of educational and public television. In 1973, LETA applications for a construction permit and funding assistance under the Public Broadcasting Act of 1967 (47 U.S. §§ 390 et seq.) were granted for a television broadcast station on Channel 27, in Baton Rouge, Louisiana. Channel 27 will be a "flagship" station for the statewide network which will ultimately include six transmitting stations (existing ETV station WYES in New Orleans will also interconnect with the LETA network) which will make public television available to every citizen of Louisiana. LETA presently has pending applications for construction permits and funding assistance for stations in Shreveport and Monroe, Louisiana, and plans to file applications for the additional stations to complete the network as soon as practicable. These additional stations are necessary to bring public television to all the people of Louisiana.

There are a number of other states (at least fifteen) where there is no statewide public television service. For example, in Kansas four additional transmitters must be activated to complete the state plan: until this is accomplished, one million people will be without direct service from even a single public television station. Similar lacunae exist in New Mexico, Nevada, Missouri, Montana and other states.

In 1967, Congress in considering amendments to the Act, determined that 200 to 300 additional ETV stations were necessary to more completely provide ETV service to all citizens. This goal has not been met: since 1967, the number of ETV stations on the air has increased by only 101, for a total of 252 stations utilizing the 655 television channels reserved for non-commercial educational assignment by the FCC. Public radio, which is also eligible for EBFP funding assistance, is even less available: at least forty perecnt of the public in this country is outside the service area of any public radio, and there are more than twenty major urban areas without such service.

As these examples indicate, there is a continuing and urgent need for federal assistance to encourage and make possible the activation of new radio and television stations. In Louisiana, as in many other states, the availability of federal assistance is essential to the completion of state and local plans to make public broadcasting available nationwide. For these reasons we urge that H.R. 4564 be amended to increase the funding level and to revise the grant priorities.

Based on our experience, it is likely that federal assistance of at least $400,000 is required to activate a single noncommercial station *assuming* that it is part of a statewide system where there are central studio facilities. Given the funding limits of H.R. 4564, there could be no more than fifteen activations a year if all the funds were used for this purpose. Of course, adoption of the funding criteria of H.R. 4564 would mean that the number of activations would dwindle to a very few, thus ensuring continued public broadcasting service deprivation to a substantial population of citizens. These populations—those without service—may be denied it forever if the low funding level and priorities of H.R. 4564 are adopted by Congress.

Section 4 of H.R. 4564 reflects the policy of DHEW, adopted in 1974, to favor proposals to upgrade existing facilities over proposals to activate new stations. This policy, as applied to applications for activations in areas not served at all by public television or radio was and is inconsistent with § 392(d) of the Act which now requires the Secretary of DHEW to adopt funding criteria designed to achieve: (i) prompt and effective use of *all* noncommercial educational television channels remaining available and (ii) equitable geographical distribution of educational broadcasting facilities throughout the States. As noted above, these goals have not yet been achieved. The DHEW rationale for the administrative change in the priorities established in the 1967 Act was that operating stations need federal assistance to upgrade and improve existing facilities. We acknowledge that facilities upgrading is important, but submit that it is of a lower priority than bringing a first service to people without access to any ETV signals which, of course, was the explicit purpose of the 1967 amendments to the Act. We urge that the funding criteria existing § 392(d) be incorporated in the present legislation and, indeed, strengthened.

In this connection, we note that the long-term Corporation for Public Broadcasting Bill (H.R. 6461) provides that not less than 40% of funds (or $40 million or more) must be disbursed by CPB to the licensees and permittees of broadcast stations that are on the air, to be used at the discretion of the stations for, inter alia, acquiring, replacing and maintaining facilities. Congress is, therefore, in the process of making significant funds available to existing stations for upgrading facilities. Since the need for new activations is still acute, the emphasis in the Broadcasting Facilities Bill should be on provision of ETV and public radio to unserved population.

In summary, we urge the Subcommittee to adopt an authorization level of at least $15 million and to require that first priority and a substantial amount of the funds be reserved for new activations, particularly in areas where there are no existing ETV services.

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Advisory Council of National Organizations
to the Corporation for Public Broadcasting,
*Washington, D.C., June 2, 1975.*

Hon. Torbert H. Macdonald,
*Chairman, House Communications Subcommittee,*
*House of Representatives,*
*Washington, D.C.*

Dear Mr. Macdonald: The Advisory Council of National Organizations to the Corporation for Public Broadcasting (ACNO) is a group of representatives of 44 major national organizations who provide national support for the mission and goals of public radio and television at the national policy and programming level.

ACNO has long been on record in support of the Educational Broadcasting Facilities Program, and wishes to add these comments to the record of the hearing scheduled before your Committee on H.R. 4564, the "Telecommunications Facilities and Demonstration Act of 1975".

ACNO supports the continuance of the Educational Broadcasting Facilities Program at least at the level of the 1975 authorization ($30 million) to continue the on-going need for facilities and also to take into account the desire for access to public broadcasting by community groups who may be new applicants for licenses.

ACNO also recognizes and supports the separate authorization and appropriation of EBFP funds for the application of new technology as a means of improving the quality and quantity of services delivered by public broadcasting.

We recognize your past record of leadership in public broadcasting and urge your support of this legislation.

Sincerely,

William F. Fore,
*ACNO Chairperson.*

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Federation of Rocky Mountain States, Inc.,
*Denver, Colo., April 16, 1975.*

Hon. Torbert H. Macdonald,
*Chairman, Committee on Communications, House Interstate and Foreign Commerce Committee, Rayburn House Office Building, Washington, D.C.*

Dear Congressman Macdonald: As the subcommittee considers the "Telecommunications Facilities and Demonstration Act of 1975," H.R. 4564, I wish to reflect the deep and continuing concern of the Federation of Rocky Mountain States in respect to effective and productive development of public broadcasting on our states and region.

If this end is to be achieved, improvement, expansion, and activation of public broadcasting facilities is a necessity and the extension of the Educational Broadcasting Facilities Program through the next five years a prime priority.

The Rocky Mountain Corporation for Public Broadcasting will have supplied a detailed listing of facilities applications pending from the region. The subcommittee is also well aware of the existing back-log of qualified applications pending and the obvious critical short fall of funding requirements vis-a-vis funds requested. For a quick regional overview; there have been filed from our states 19 applications totaling $3.65 million. Of this amount $1.94 million is in applications carried over from prior years and $1.58 million in 1975 filings We anticipate at least as great a carry-over into next year and also an increase in new applications.

None of our public television stations meet state of the art standards. All should! To do this, the present grant rate will require at least five more years of Facilities Program availability with an appropriation at least equal to the 1974 level. In spite of one and one quarter million dollars of local funds committed for matching, the federal match is impossible at the level of authorization the bill proposes. National figures would indicate that $24 million is necessary for FY 1976 merely to meet the back log.

Obviously then, the proposed $7 million per year is grossly inadequate to meet existing broadcast facilities needs. It is equally inadequate to support additional demonstrations in telecommunications technologies to any meaningful degree. It is impossible to broaden the program as proposed with dollars that are already tight.

We therefore recommend that the subcommittee review needs for both broadcast facilities and technological demonstration and adopt dollar levels commensurate with expressed congressional intent. We further recommend establishment of congressional guidelines for allocation of appropriated funds for each purpose indicated. We would then endorse the extension of both the Educational Facilities Program and the Technological Demonstration authorization as proposed and request your favorable consideration.

Sincerely yours,

William E. Rapp, Ed. D.,
*Vice President.*

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Nevada Educational Communications Commission,
*Carson City, Nev., May 29, 1975.*

Re: HR 4564, HR 6461

Hon. Torbert H. Macdonald,
*Chairman, Subcommittee on Communications, Committee on Interstate and Foreign Commerce, U.S. House of Representatives, Washington, D.C.*

Dear Congressman Macdonald: I thought that you might like to have some comments on the up and coming HR 4564 hearings scheduled to begin June 4, 1975. I've referenced the facilities bill and the CPB bill because we feel they are interrelated.

HR 4564 provides very little in appropriation moneys for the many telecommunications users in this country. To cut the program from $14,000,000 to $7,000,000 obviously indicates a thinking on Health, Education and Welfare's part that the program has fulfilled its objectives. This is *not* the case. Many states, including Nevada, have not reached the population as mandated by the various legislative and federal acts.

Certainly Nevada, Montana, New Mexico, Louisiana and Missouri (to name a few) have the federally legislated right to receive funds for construction of new public television facilities and telecommunications centers. The ETV growth factor in these states has continued, but in some cases at a widely varying rate. While our neighbors expand, we attempt to find operating and construction funds to get started.

It certainly has been frustrating in Nevada over the years since 1967. Three attempts to solidify operational funds in this state have been forwarded to the Legislature. We have been unable to solidify operational support even at times when construction funding was available. We now plan to build a new network based on the facilities of KLVX Channel 10, Las Vegas, to extend their services to the rest of the state. The plan for statewide television has been in existence since 1969 and with all the work put into it, funding and always funding has been the headache.

We now see a potential abandonment of our interests in the new HR 4564 bill. We see this tendency because of the reduction in funds to $7,000,000 and the new criteria for applicants for the broadcasting facilities program. It certainly is important to fund the exemption of existing stations as there is a definite need, but we feel construction of new stations should be priority one, especially in states where one or only limited facilities are available to the population centers.

In our thinking HR 4564 also ties in with the Corporation for Public Broadcasting bill, HR 6461. CPB funding for the next five years has increased drastically. The program reserves funds for distribution amongst the licensees and permittees of noncommercial broadcast stations that are on the air. As we mentioned earlier, part of the problem in many of the states lacking educational broadcasting facilities is the fact that they can't get on the air, and they can't get on the air because they can't get operating funds.

With this in mind we would like to point out a major concern in the CPB bill. The terminology used on page 5, lines 15–25 implies that the funds are available for acquisition of equipment and real property for any use.

The terminology is written in such a way as to imply to us that the wording was taken from the Educational Broadcasting Facilities program. In short, facilities eventually will become a CPB responsibility. My discussions with the Educational Broadcasting Facilities program seem to bear this out.

We see no real problem with this in the future, however we are beginning to wonder what happens to states such as ours where we are trying to activate a new station. CPB supplies operating money to a station already on the air, HEW provides construction money for a station that wants to go on the air, and yet no one seems to supply operating money for a station that has not yet gone on the air.

We would therefore like to respectfully submit that there are 15 states in this country not adequately served by educational and public broadcasting stations, and those 15 states are still attempting to activate new facilities such as Nevada. If we were to lose broadcasting facilities money, or see it spread so thin that total new activations next year might only be two or three, we would obviously feel that the Department of Health, Education and Welfare has completely done an about-face with their mandate.

We therefore would like to see activation of new stations returned to a first priority level and funding to continue at a level no lower than $15,000,000.

Sincerely,

JACK A. LEMEN, *Executive Director.*

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STATE OF NEW MEXICO,
OFFICE OF THE GOVERNOR,
*Santa Fe, July 24, 1975.*

Hon. TORBERT H. MACDONALD,
*Chairman, Subcommittee on Communications, House Interstate and Foreign Commerce Committee, Rayburn House Office Building, Washington, D.C.*

DEAR CONGRESSMAN MACDONALD: I am pleased at the opportunity to offer a New Mexico comment on the proposed "Telecommunications Facilities and Demonstration Act of 1975"—H.R. 4564.

I have long had a deep personal interest in public broadcasting in our state and have recently established a new Governor's Commission on Public Broadcasting to ensure an effective statewide system. When I was a member of the New Mexico Senate, I was pleased to introduce legislation to make possible activation of KRWG–TV in Las Cruces and strongly supported similar action for KENW–TV in Portales. Proud as I was at the time of my support, I am even happier now after watching KRWG's on-air performance to have played this role in providing their essential service to New Mexico citizens.

We have three public television stations in the state. Albuquerque's KNME was a pioneer in the Rocky Mountain region in the 50's. KRWG went on-air in 1973 and KENW in 1974. All are licensed to public educational institutions and are supported primarily by state appropriation. Congressional action on the proposed bill is crucially important to them and to New Mexico.

H.R. 6461, as reported by your subcommittee, will provide long-term insulated Federal programing support for public broadcasting. But, important as this support for expanded local programming is, it means little to a small local station lacking equipment to take full advantage of it. The carpenter must have the tools to do the job. Hence, it is essential to New Mexico that the EBFP not only be extended but that appropriation authorization realistically reflect both the existing backlog of qualified applications and the continuing increased local demand for the program.

Prior to the belated FY '75 grants, two of our three public television stations had only one videotape machine. Three TV improvement applications and two Radio (one expansion and one activation) were pending. All were carryovers from previous year filings. After the current grant announcements, one TV and one Radio improvement/expansion application will still carry over again. These total $308,000 Federal share. Hence, more than $100,000 New Mexico dollars are still committed into the third year since filing. To bring our stations to 1974 state-of-the-art standards, our Commission anticipates at least two facilities grant applications per year for the next five years. On the previous record, local matching dollars will again be available frustratingly in advance of national support.

The carryover radio/expansion application cited was filed by the Ramah Navajo School Board, Ramah, New Mexico, and we are advised the Navajo Film & Media Commission will reactivate the previous filing for a TV/Activation grant to the Navajo Nation. Our Commission has a constructive and supportive interest in this endeavor and will assist the effort as requested.

Since these grant requests with which New Mexico is directly concerned would require 15% of the proposed authorization for FY '76, it is impossible for me to view the proposed $7 million annual authorization as responsive or realistic. To compound the inadequacy for EBFP alone by including telecommunications demonstrations support in the same small pot would be ridiculous.

Both the facilities program and the proposed demonstrations are vital. Both should be funded. Neither can be meaningfully supported at the proposed level. The Congress in its wisdom can determine annually the appropriation required and practicable, but the five-year authorization must be realistically appropriate to the intent of the bill. The New Mexico Commission recommends authorization of not less than the previous $30 million annually, plus anticipated demonstration requirements.

Finally, we note the absence of ground rules in the Act for allocation of funds between broadcast assistance and non-broadcast demonstrations. In my judgment, it would be wise for the Congress to spell out specific guidelines to ensure implementation of its intent.

I then emphatically endorse extension of the Educational Broadcasting Facilities Program, recommend realistic authorization and specific allocation of funds by function and request your favorable action on H.R. 4564 as modified.

Sincerely,

JERRY APODACA, *Governor.*

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PUBLIC SERVICE SATELLITE CONSORTIUM,
*Washington, D.C., June 6, 1975.*

Hon. TORBERT H. MACDONALD,
*Chairman, Subcommittee on Communications, House of Representatives, Rayburn Office Building, Washington, D.C.*

DEAR CONGRESSMAN MACDONALD: I wish to add for the record my support of HR 4564, The Telecommunications Facilities and Demonstration Act of 1975. I am sure that prior testimony by the Corporation for Public Broadcasting and others has made clear to you that the $7 million presently asked for by the Administration for funding both the facilities and demonstration programs in each of the next five years is grossly inadequate to accomplish the purposes of the legislation. I urge appropriate funding to insure that the nation's public broadcasting system will continue to grow in extent and efficiency, and to provide for a meaningful program of demonstration and experimentation in applying other technologies to education and a wide variety of social services.

My interest in this legislation arises from a variety of sources. As you know, in my term as Governor of American Samoa, the territory developed one of the first educational systems using communications technology, a system which remains a landmark in the successful application of technology to the needs of the schools. Further, in the period during which I was privileged to serve as Commissioner with the Federal Communications Commission, I supported the facilities program enthusiastically, and frequently I urged educators and noncommercial broadcasters to broaden their operations to include any communications technology which could increase their reach and effectiveness. I called upon the broadcasters, in particular, to become telecommunicators, and to work closely with cable systems, ITFS operators, with state and local governments and school administrators to put to public service the revolution in technology which is taking place. Necessarily, in these times of limited public and private funding, it is difficult for the local station or school system to find funds for exemplary demonstrations of the effectiveness of these newer techniques. The demonstration program which HR 4565 proposes could do much to assist them in this important undertaking.

Lastly, at present I am one of the officers of the newly-incorporated Public Service Satellite Consortium, itself both a demonstration and exploration of still another technique—that of satellite technology. The formation of the consortium was the result of a series of meetings which had brought together educators, health-care specialists and communications experts who had been impressed by the results of an array of health and education experiments still underway on NASA's ATS-6—the most powerful communications satellite launched to date. The experiments were reported to your Committee during this hearing by Dr. Gordon Law, who formerly directed the Satellite Technology Demonstration.

Among the purposes of the consortium are:

To arrange for and promote the shared use of satellites and other communications capabilities as delivery mechanisms for health, educational and other public services;

To assist in coordinating the telecommunications planning activities of public and private institutions and agencies;

To provide a mechanism to identify and aggregate potential users;

To act as the latter's agent in arranging communications services on a cost-sharing basis; and

To develop practices encouraging the experimental uses of new telecommunications services.

Thus, my support for both provisions of this legislation is wholehearted, and I respectfully urge its favorable approval, at funding levels adequate to insure its multiple goals.

Sincerely,

H. Rex Lee,
*Chairman of the Board.*

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[Whereupon, at 4:45 p.m. the hearings were adjourned.]

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